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THE

WEEK OF CREATION,

OR

THE COSMOGONY OF GENESIS

CONSIDERED IN ITS RELATION TO MODERN SCIENCE.

BY

GEORGE WARINGTON,

AUTHOR OF "THE HISTORIC CHARACTER OF THE PENTATEUCH VINDICATED," &c.

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PREFACE.

A CONSIDERABLE portion of the present work has already appeared in the *Journal of the Victoria Institute*, having been read before that Society on June 1, 1868. It was originally intended simply to reprint the paper then read, in a separate form; for which the Council of that Society readily gave permission. Sundry additions and emendations, however, soon suggested themselves, which led to a careful revision of the whole. This revision has resulted in the re-casting of the entire paper into a new form, much being re-written, some parts omitted, and a large quantity of altogether new matter added. The present work, while thus founded upon the former, is hence as a whole distinct and independent, the subject being handled

much more fully, and in a somewhat different order. It is hoped that these changes will be found to have resulted in a further elucidation, and more thorough confirmation, of that Divine record which forms the subject alike of the earlier and later efforts.

G. W.

Caius College, Cambridge,
Feb. 24, 1870.

THE WEEK OF CREATION.

THE history of creation is the only part of Scripture which can be said to involve direct scientific teaching. Elsewhere, indeed, the facts and phenomena of Nature with which science has to do are frequently alluded to, but only in an indirect way. They are never the object of Scripture-teaching, but only the accessories or illustrations of it. In every case, moreover, there existed a natural knowledge of the matters referred to, on the part both of writers and readers. Such indirect statements in regard to Nature are thus precisely analogous in purpose and character to that class of Scripture narratives which the writers were acquainted with of their own natural knowledge, apart from inspiration, and which were inserted merely as vehicles for spiritual teaching.

The examination of these narratives shews plainly that the only point in which the inspiring influence affected the writers was the tone or spirit of their compositions, *i.e.* the *use* made by them of naturally known facts, as vehicles for setting forth God's truth and will; while the facts themselves were left untouched. In the *teaching* of such histories, the tone and spirit that breathes through their narration, we have the expression of God's mind. In the detailed facts, with their occasional little inaccuracies and inconsistencies, we see evidence of the limited and imperfect knowledge of the human writers, for which inspiration is in no way responsible[1]. This being so in the case of Scripture narratives, it is only reasonable to suppose that the same rule will hold in regard to the parallel case of allusions to Nature and Natural phenomena. Here also we may expect to find Divine truth in the teaching which such allusions embody or illustrate; while in the scientific knowledge of Nature

[1] For the evidence on which this assertion rests, the reader must be referred to Chap. III. of the author's work on 'The Inspiration of Scripture; its limits and effects.'

which they exhibit we may very likely discern the imperfection or inaccuracy naturally incident to the writer's age and country. The discovery of scientific errors in these parts of Scripture is hence as much a matter of indifference as the detection of occasional inaccuracies in Scripture histories. Both are what might, under the circumstances, be reasonably expected. Neither in the least affects the title of the Bible to be received as an inspired book.

But however true this plea may be in the case of ordinary Scripture allusions to Natural phenomena, it is clear that in regard to the history of creation it is of no avail. For here (1) no natural knowledge of the facts could exist, to whose partial and phenomenal character any scientific inaccuracy in the record might be ascribed. The knowledge of Nature possessed by the original writers and readers of the Bible (revelation being put on one side) could plainly have extended at most no further than the first appearance of man upon the earth. But the Scriptural cosmogony deals in the main with Nature as it was before man's appearance. The narrative

which it contains must either, therefore, be a mere string of fancies, the product of human imagination; or, if true, it must be the result of Divine revelation. Then too (2) the object which this cosmogony has in view is far too intimately connected with the facts it details to allow these to be regarded as non-essential or unimportant. Its design is not merely to use the history of creation in illustration of spiritual truth, but *de novo* to set forth what that history was, and so convey that teaching which creation rightly regarded is intrinsically fraught with.

In a word, the history of creation finds its proper parallel, not in other Scripture-histories, but in *prophecy*, where spiritual truths are taught in connection with facts not otherwise known, but whose revelation as facts is one of the objects in view. Just, then, as in prophecy, in order to establish it as Divine it is necessary not only to shew the superhuman character of its teaching, but also the truth of its particular predictions; so here in Genesis both teaching and facts must be proved to be true, or the claim of the cosmogony to be Divine would be set aside. That

God should use mere human fancies about unknown facts as the vehicle for spiritual teaching, and that too in such a way as to cause these fancies henceforth to be received as true representations of the facts, is an idea too utterly antagonistic to all that we know of His dealings to be credited for an instant. Where a natural knowledge of facts existed, sufficiently full and accurate for the purpose He had in view in using them, there no revelation of facts was necessary, and so none was given. But where there was no natural knowledge of the facts on which the teaching was to be based, there a revelation of these was indispensable, as the first step. In such cases, then, facts as well as teaching must be regarded as resting directly upon Divine authority.

These considerations will serve to shew both the unique position, and the exalted claim of the Biblical cosmogony, as a professed revelation of otherwise unknown Natural facts, whose narration as facts is an essential part of the purpose in view. Whatever may be said, then, of other parts of Scripture, where scientific matters are more or less distantly and indirectly touched upon, this

opening section not only allows but demands the keenest scientific investigation. To bestow such investigation is the object of the present work.

In the record of Genesis are a series of statements concerning creation, which involve certain doctrines as to its Author. How far, now, do these statements and doctrines harmonise with the discoveries and inferences of modern science?

To ascertain this it is necessary—

I. To examine minutely the original text of the Scripture in question, with all the light which scholarship and critical research can cast upon it, so as to obtain the true meaning of every clause and phrase contained in it.

II. To consider carefully the purpose and scope of the passage as a whole, that we may know what kind of information we have a right to expect from it.

III. Having thus prepared the way for the consideration of the real teaching of the cosmogony, to compare that teaching in detail with the facts and conclusions of inductive science.

I. THE PASSAGE ITSELF.

(I. 1) In the beginning God created the heavens and the earth. (2) And the earth was empty and desolate, and darkness upon the face of the deep. And the Spirit of God hovered upon the face of the waters. (3) And God said, Let there be light. And there was light. (4) And God saw the light, that it was good. And God divided the light from the darkness; (5) and God called the light Day, and the darkness He called Night. And there was evening, and there was morning; one day.

(6) And God said, Let there be an expanse in the midst of the waters, and let it be a division of waters from waters. (7) And God made the expanse, and divided the waters which were below the expanse from the waters which were above the expanse. And it was so. (8) And God called the expanse Heavens. And there was evening, and there was morning; a second day.

(9) And God said, Let the waters below the heavens be gathered unto one place, and let the dry ground appear. And it was so. (10) And God called the dry ground Land, and the gathering of the waters He called Seas. And God saw that it was good. (11) And God said, Let the land sprout forth sprouts; herbs seeding seed, fruit-trees producing fruit after their kind wherein is their seed, upon the land. And it was so. (12) And the land brought forth sprouts; herbs seeding seed after their kind, and trees producing fruit wherein is their seed after their kind. And God saw that it was good. (13) And there was evening, and there was morning; a third day.

(14) And God said, Let there be luminaries in the expanse of the heavens to divide the day from the night, and let them be for signs, and for seasons, and for days and years; (15) and let them be for luminaries in the expanse of the heavens to give light upon the earth. And it was so. (16) And God made the two great luminaries, the greater luminary to rule by day, and the lesser luminary to rule by night; and the stars. (17) And God appointed them in the expanse of the heavens

to give light upon the earth, (18) and to rule over the day and over the night, and to divide the light from the darkness. And God saw that it was good. (19) And there was evening, and there was morning; a fourth day.

(20) And God said, Let the waters swarm 1-
forth swarming things, living souls; and let birds fly upon the land upon the face of the expanse of the heavens. (21) And God created the great monsters, and all the living souls that creep, which the waters swarmed forth after their kind; and all birds of wing after their kind. And God saw that it was good. (22) And God blessed them, saying, Be fruitful and multiply and fill the waters in the seas, and let the birds multiply in the land. (23) And there was evening, and there was morning; a fifth day.

(24) And God said, Let the land bring forth living souls after their kind, cattle, and creeping things, and land-animals, after their kind. And it was so. (25) And God made land-animals after their kind, and the cattle after their kind, and all creeping things of the ground after their kind. And God saw that it was good. (26) And God

said, Let us make man in Our image, after Our likeness, and let them have dominion over the fish of the sea, and over the birds of the heavens, and over the cattle, and over all the land, and over all the creeping things that creep upon the land. (27) And God created man in His image, in the image of God He created him; male and female He created them. (28) And God blessed them, and God said unto them, Be fruitful and multiply and fill the earth and subdue it, and have dominion over the fish of the sea, and over the birds of the heavens, and over all animals that creep upon the land. (29) And God said, Behold I have given unto you all herbs seeding seed which are upon the face of all the land, and all the trees wherein is the fruit of a tree seeding seed; they shall be unto you for food; (30) and to all land-animals, and to all birds of the heavens, and to all creeping things upon the land wherein is a living soul—all green herbs for food. And it was so. (31) And God saw everything that He made, and behold it was very good. And there was evening, and there was morning; the sixth day.

(II. 1) And the heavens and the earth were

finished, and all their host. (2) And God finished on the seventh day His work which He made, and He rested on the seventh day from all His work which He made. (3) And God blessed the seventh day and hallowed it, because in it He rested from all His work which God, by making, created.

(4) These are the generations of the heavens and the earth in their creation.

I. 2. 'empty', תֹּהוּ. Emptiness or nothingness, rather than formlessness (A. V.), is the universal sense of תֹּהוּ; which in Is. xlv. 18 is, in regard to creation, expressly opposed to 'inhabited'. The word is commonly used to describe a ruined or desolate condition of country (Deut. xxxii. 10; Job xii. 24; Ps. cvii. 40, &c.), and is also applied to any vanity or thing of nought, as idols, &c. (Is. xl. 17, xli. 29, xlix. 4, lix. 4).

I. 2. 'hovered'. The same word as is used in Deut. xxxii. 11 of the eagle fluttering over her young. The idea of *brooding* might also be well included in the word, though it is not used in this sense elsewhere in Scripture.

I. 5. 'And there was evening', &c. This is

the exact force of the original, the verb being invariably inserted *twice*, and in exactly the same form (וַיְהִי) as in the phrases 'And there was light', 'And it was so', &c. The A. V. rendering is hence quite untenable. See the versions of the LXX., De Wette, and Benisch, and the commentaries of Kalisch, Tuch, Keil, and Knobel, all of whom adopt some such rendering as that given above.

I. 5. 'one day'; or 'a first day'. The definite article is only introduced in speaking of the sixth and seventh days.

I. 6. 'expanse'. It is admitted on all hands that רָקִיעַ means 'that which is extended, stretched, or beaten out'. Whether this be of a solid nature or not, the word leaves entirely undefined, as it is used equally of spreading out clouds, beating out metal plates, and laying down pavement. The favourite verse insisted on by those who argue for a solid expanse as the true Scriptural idea, Job xxxvii. 18, will be found discussed in Appendix No. I. 'Expanse' is the translation adopted by Benisch, Kalisch, Delitzsch, and Keil.

I. 10. 'Land'. The original אֶרֶץ has two sig-

nifications, 'earth' and 'land', which run side by side throughout the whole of Scripture. The only means of deciding in any case *which* is intended, is by looking to the context. Wherever therefore in this passage אֶרֶץ appears to be used in a restricted sense, and especially wherever it is contrasted with 'waters' (as in ver. 10, 20, 22), it has been translated 'land', instead of uniformly 'earth', as in A. V.

I. 14. 'luminaries'. A different word (מְאֹרֹת) from the 'light' (אוֹר) of ver. 3—5, meaning strictly 'light-bearers', or bodies giving light, not the light itself. This distinction is carefully observed in the LXX., De Wette, Benisch, Kalisch, Tuch, Knobel, Delitzsch, and Keil.

I. 17. 'appointed'. Literally 'gave'; a use of the verb very common in the older sections of the book of Genesis (ix. 12; xvii. 2, 5, 20; xlviii. 4). The expression is the same as that used of the sun in Jer. xxxi. 35, where it is translated 'giveth'.

I. 20. 'let birds fly'; not 'birds that may fly', as A. V. The former rendering is that adopted by De Wette, Kalisch, and Delitzsch.

II. 3. 'by making'. The verb is in the infinitive, לַעֲשׂוֹת, and may therefore be rendered either 'to make', or 'by making'; the former implying that God created the heavens and the earth *in order* to make their various inhabitants, &c.; the latter implying that His *manner* of accomplishing creation was by a continued *fashioning* of the materials originally called into being. The latter meaning plainly harmonises far better with the context than the former. It is adopted by Gesenius, Ewald, Tuch, Knobel, and Keil; 'created to make' is the rendering of Benisch and Delitzsch; 'created and made' is given by De Wette and Kalisch.

II. 4. 'These are the generations', &c. This phrase is taken to be the conclusion of the first section of Genesis, instead of (as usually) the commencement of the second, because (1) the detailed account of creation just concluded answers far better to what such a title would lead us to expect, than does the partial view of a few particulars (mentioned because of their relation to man's history) which follows; and (2) because by breaking the verse here the succeeding clause becomes much

more intelligible, "In the day that the Lord God made earth and heaven, then no field-plants were yet in the earth, and no field-herbs yet grew; for," &c. This construction of the verse is adopted (with some minor variations) by Ewald, Delitzsch, Tuch, Knobel, De Wette, and Kalisch. Of these Ewald, Delitzsch, and Knobel regard the earlier part of the verse as a subscription to the foregoing history; while Tuch, De Wette, and Kalisch prefer to make it the heading of what follows.

II. THE PURPOSE OF THE COSMOGONY.

1. We have said that the cosmogony both allows and even demands scientific investigation. It would be a grave mistake, however, to suppose that it was written for the sake of such investigation. As soon as independent knowledge of the facts of creation exists, with which its statements can fairly be compared, investigation into its truth is, indeed, challenged. But its proper purpose was one altogether different; namely, to instruct those who had no such independent knowledge. In a word, the narrative of Genesis was intended primarily, not for the scientific, but for the *unscientific*. It has been handed down to us as part of the sacred writings of the Israelites, a people whom we have no reason to suppose knew anything of science properly so called; who at all events knew nothing of that particular branch of science, geology, which throws most

light upon the history of creation. Nor do we find that this record was committed to the Israelites merely to be preserved by them, and so handed on to other and more enlightened readers. It was no sealed writing, whose meaning and use would first be perceived in future times when knowledge was increased[1]. On the contrary, it was pointed to as the authority and exemplar of one of their most characteristic institutions, the Sabbath (Ex. xx. 11, xxxi. 17). In the history of creation here given them the Israelites were to behold the reason and the pattern of their own perpetually recurring six-days' labour and seventh day's rest. It was a narrative, then, which was held to be well within their comprehension, and which was expressly designed for their instruction. And with this its whole structure and language well agree. It is as simple, as straightforward throughout as could possibly be conceived. There is nothing obscure or ambiguous in it anywhere. A child might understand it without difficulty.

Now what follows from this? If the cosmogony of the Bible was intended primarily for those

[1] Dan. xii. 4.

unacquainted with science, if it was given to such not merely for preservation but for practical daily use, if it was couched in such language as suggested a natural and intelligible meaning to those to whom it was thus given; surely this natural meaning discerned by non-scientific readers must be accepted as *the* meaning intended by the Author. It may be, of course, that beside this plain teaching of the narrative there are hidden depths of meaning only to be discovered when its pages are read in the searching light of science. But granting this as possible, we must none the less guard ourselves from putting any meaning upon its statements and expressions which would be out of harmony with the meaning these suggest to the non-scientific. Science may enlarge our conception of what the words of the cosmogony denote, it may remove false notions which, though not taught by these words, we have heretofore associated with them; but it must not be permitted to alter their natural meaning in the very least. For, supposing that it did so, see what would thereby be implied. The words have a natural meaning on their face; the scientific reader

rejects this and assigns another meaning, such as without science would have occurred to no one. During all the preceding ages, then, this part of the record must have been an enigma waiting for solution. Nay worse; for during all this time it *had* a plain meaning discernible by all, which meaning is now discovered to be false: so that it was not only an enigma hitherto unsolved, but one which up to the time of its solution was really calculated to *mislead* on those points where it appeared to instruct. Such a conclusion is a sufficient refutation of the premises on which it rests. Heathen oracles might deal in such deceiving riddles, but not Divine revelation.

We conclude, therefore, that as the cosmogony was intended primarily for the non-scientific, so the sense naturally attached to it by such must be accepted everywhere as the true sense. Our interpretation of it must be as independent of science, as unbiassed by scientific opinion or facts, as the interpretation given by the ancient Israelites.

2. Though it is in the Hebrew Scriptures that we now read this history of creation, and to the

Hebrew nation that we owe its preservation, yet we are not to regard it as having been at the first designed for their exclusive use, but rather for the whole world. Other nations also had their cosmogonies, fragments of which have come down to us, in some cases probably modified by tradition, in others more nearly in their original form. These records present a great variety of parallelisms with the Hebrew narrative. Nearly all commence with a primitive chaos of waters, empty and dark, upon which the Creator acted. One speaks of the Spirit moving over the waters, others of the coming in of light, several of the division of the waters into those above and below, and the subsequent creation of plants and animals; while two arrange the work into six equal and consecutive periods, with nearly the same order and divisions as those of the Bible[1]. That these heathen cosmogonies are related in their origin to the Hebrew one, there can be therefore no doubt. While their exceedingly wide range—stretching, as they do, from India, Persia, and Chaldea, on the

[1] A fuller account of these divers cosmogonies will be found in Appendix II.

one hand, to Etruria, Greece, Egypt, and Phœnicia, on the other; perhaps to be found even in China, in Japan, in the islands of the Pacific, and among Scandinavian tribes—their wide range sufficiently evidences the extreme antiquity of their source. It proves also that they cannot be regarded as the result of later borrowings from the Hebrew Scriptures, since they are found as frequently among nations with whom we have no reason to believe the Jews to have come in contact, as they are among those with whom they did. The strange distortions and mythological perversions which continually accompany the points of parallelism, also preclude the idea of imitation. Rather must all these traditions be regarded as diversified, fragmentary, and more or less degenerate representatives of one primeval cosmogony, of which the Hebrew Scriptures give by far the most ancient, and (as we believe) the only thoroughly trustworthy, record. But though we still look almost exclusively to these Hebrew Scriptures for information in regard to the cosmogony, we can no longer regard it as originating with them. Its date must be thrust back beyond the

origin of the Hebrew language even, to a period before the dispersion, it may be even (who can tell?) before the flood.

This conclusion is of importance as at once setting aside all those schemes of interpretation which would limit the creation spoken of to a particular portion of the earth's surface. If the narrative was intended for the instruction of the whole human race, to inform them concerning the origin of the earth on which they dwelt; then, inasmuch as this race was intended to spread over the entire earth, its creation as a whole must be that described, or the cosmogony would fail of its purpose. If, as some have thought, the record of Genesis is a true account of creation as regards Palestine, or some other limited eastern area, but not as to the rest of the world; then those nations who gradually transferred their habitation from this area to the outlying regions would have carried with them what was practically a false and misleading idea of creation, since they would be certain to apply their traditional knowledge to these new lands equally with the old, whose history (on this view) was yet in reality altogether dif-

ferent. No: had God intended to reveal the origin of a part of the earth only, this would either have been explicitly stated in the record (which no one pretends to be the case), or at all events He would have committed the revelation exclusively to those who inhabited that part. The cosmogony is not thus confined to a single nation, but is world-wide. If, therefore, it be a Divine revelation its statements and teaching also must be held to be of world-wide application, including the entire globe, equally true everywhere and at every time.

3. What object had God in view in giving such a revelation to the world? Was it to teach men Natural science? That the history of creation contained information of a scientific character not otherwise obtainable by those to whom it was given, is not to be denied. But that to impart such information was the proper end of the cosmogony, by no means follows. A moment's glance at the structure of the narrative is sufficient to shew that the main point everywhere kept in view is not (as with science) the constitution

of Natural objects, or the explanation of Natural phenomena, but the relation of these to God. From first to last every item of information is linked to some act of Deity. It is God who creates, God who commands, God who names, God who commissions, God who approves, God who blesses. Let this, now, for a moment cease to be so. Strike out all mention of God from the narrative; and what a bare and meaningless record it becomes! Who needed to be told that light, air, land, seas, plants, celestial bodies, animals, man, were the objects constituting the world of Nature? Who needed such information as that the light divided day from night; that the sun and moon were pre-eminent at different times, and served to mark out months, seasons and years; that animals multiplied, and fed upon plants, &c.? How utterly trite were such a mere enumeration of objects and phenomena! And yet what besides this would be left in the cosmogony? Nothing whatever beyond the fact of the earth having been originally dark, desolate and water-bound, as a contrast to what it is now; and a statement of the particular order and time in

which the successive parts of the world came into existence. These new facts would certainly remain, as a kind of skeleton; but the whole life and character of the story, its flesh and blood so to speak, would be completely gone. Clearly, then, it is in the theological information conveyed by the cosmogony, rather than in the scientific, that we are to discern its proper end. Its object was to exhibit, by means of the history of creation, the relation of God to Nature, and Nature to God. It is a manual of Natural theology, not of Natural science.

The conclusion to be deduced from this in regard to interpretation, is plain. If the teaching of Natural theology is the true object of the cosmogony, so that a large part of its contents are trite and meaningless when regarded from any other point of view, then there is strong reason to believe that the remainder also was intended chiefly for the same end; that the statements concerning the time and order of creation, also, were designed to set forth truths of Natural theology, rather than mere facts in science. Any interpretation, therefore, which assigns to these, or any

other items in the cosmogony, a purely scientific import, is to be regarded as far less probable, because less consistent with the manifest aim of the whole, than one which makes them embodiments of theological truths.

The consideration of these *primâ facie* characteristics of the record has led us to three canons of interpretation of the utmost value.

1. That we are to assign to every part that meaning which the words would naturally suggest to one unacquainted with science.

2. That we are not to confine the application of the history to any one part of the earth, but extend it equally to the whole.

3. That we are everywhere to expect and look for theological, rather than purely scientific truths, as the chief things intended to be taught.

But this is not all. We are in a position to define, further, what amount and kind of scientific teaching we have a right to expect from it.

Thus, in the first place, we have plainly no right to expect scientific *language*, since this, to people unacquainted with science, would have been

unintelligible and misleading. Scientific language, moreover, is subject to serious modifications, if not radical alterations, as science progresses; while the narrative of Genesis was intended, as we have seen, for all time, and therefore must be couched in language not liable to such changes. The only language which possesses these two requisites of general intelligibility and non-liability to change, is the language of appearances. The facts set forth must be described as they would have seemed to be to the eye of man; that is, in a word, phenomenally, or the cosmogony would fail in its purpose. All scrutiny or objection in the matter of unscientific, or scientifically inaccurate language, then, must be put on one side, as irrelevant.

Then, secondly, we have no right to expect more of Nature to be treated of than was naturally known to men. The aim of the narrative was not to enlarge men's views of Nature as such, but, through Nature, to teach them concerning Nature's God. Since, now, this was to be done independently of science and scientific discoveries, it was plainly essential that only those parts of

Nature should be touched upon with which unscientific men everywhere were sure to be acquainted. To have introduced anything beyond this would have required as a preliminary some amount of strictly scientific teaching, to make the subjects sufficiently familiar to be thus adopted as vehicles for conveying theological truth. But such scientific teaching is not pre-supposed; while, to include it in the cosmogony, would have been wholly inconsistent with its design. We conclude, therefore, that the only parts of Nature which we have any right to expect to find treated of are those ordinarily known and familiar to the human race.

But, lastly, what we *have* a right to expect is (1) that the truths taught shall be in harmony with the results of science, so that the same principles of Natural theology which in Genesis are applied to familiar objects and phenomena, shall be found to be equally applicable to these, and others like them, when viewed in the light of science; and (2) that the facts alleged as embodiments of these truths shall be really facts, described in language phenomenally correct.

To ascertain whether these expectations will be verified, is the main task now before us. Before however proceeding to this, it may be well to notice briefly the way in which the *negative* part of our anticipations is realised in the actual details of the narrative.

Take as an example the statements in regard to the celestial bodies. They are introduced simply as luminaries, appointed to shine in the expanse of heaven, and give light upon the earth, thereby marking out times, seasons, days and years. They are divided into sun, moon, and stars, of which the sun and moon are distinguished as the two great luminaries, the stars being all but ignored. How meagre a description in the eye of science! Here is no mention of the sun as the centre of our system, no indication of the true position of the moon towards us, no distinction between fixed stars and planets; nothing, in a word, which would in the least enlarge men's ideas as to the real nature of these objects, or of the phenomena connected with them. The cosmogony confines itself strictly to that aspect of the heavenly bodies, and that knowledge concern-

ing them, which was familiar to all men in every part of the globe; and within these narrow limits it speaks of them only as they appear to the uninstructed eye. Various theories have been current at divers times, both false and true, to account for these celestial appearances. The Biblical narrative passes them all by in absolute silence, and speaks exclusively of the phenomena. And why? Plainly because the scientific interpretation of Nature was not its object, but the theological. When men instructed in this cosmogony gazed once more upon the host of heaven they would know no more of their physical nature, offices and relations, than they did before; it was not meant that they should. But they would know this:—who made them, and how, when, and why He made them. They would know, indeed, no more of astronomy than before, but they would know more of God; and to reveal Him was the object in view.

So, once more, the narrative treats of the various living things inhabiting the earth. How does it denote them? Precisely according to those natural divisions which, without making the slight-

est claim to scientific character, are familiar to everybody. The "sprouting things" or plants, are divided into "herbs" and "trees"; the inhabitants of the waters into "creeping things" and "monsters"; the terrestrial creatures into "cattle", "land animals" (*i. e.* wild beasts), and "creeping things". Not the slightest pretence to scientific classification anywhere, but simply the natural groups into which living things would be sure to fall in the human mind everywhere, and throughout all time. To teach zoology or botany was no object of the cosmogony, but only to exhibit the position and relations of plants and animals as creatures of the one true God. To have introduced scientific ideas here would have been altogether beside the mark.

To all such limited and non-scientific views, then, Science is wholly incompetent to make objection, since, so far as they go, they are plainly correct enough; while that the cosmogony goes no further is attributable to the close and exclusive attention everywhere bestowed upon its proper aim.

III. THE TEACHING OF THE COSMOGONY.

RETURNING now to the main point before us, we have to inquire, 1. What are the principles of Natural theology enunciated in the cosmogony, and how do they agree with those deducible from independent scientific investigation? 2. What are the facts in creation alleged in connexion with these principles, and how do they agree with those discovered by Natural science?

I. First, then, of the principles of Natural theology taught, for the sake of which, we conceive, the entire narrative was constructed. They may be briefly summed up as follows. 1. The dependence of all things upon God. 2. God's independence of His creatures. 3. God's manner of creating. 4. God's government by fixed law. 5. God's method of gradual development. 6. God's principle of subordination. 7. God's time of working. 8. God's rest.

1. *The dependence of all things upon God.*—Each stage of progress, from the first calling into existence of the heavens and the earth, to the minutest detail in the process of furnishing and perfecting the latter, is exhibited as depending directly upon an act of God as its originative cause. In some cases, indeed, Natural materials, and it would seem Natural forces also, are spoken of as taking part, as in the generation of plants and animals from the land, or fishes from the sea, which is described as 'the land sprouting forth sprouts', 'the waters swarming forth swarming things', 'the land bringing forth beasts.' Still, even here the relation of all to God as their sole proper cause, is carefully maintained; for not only do they arise at His word, but before any life arises there has been in the first place a 'hovering' (equivalent, probably, in idea to 'brooding') of His Spirit over the empty and desolate abyss of the primeval waters. This, then, is the first and fundamental doctrine of the Biblical cosmogony. There is but one First Cause, to Whom every step of creation from first to last is to be ascribed. What has science to say to this?

Positively, science can simply say nothing. The instruments of investigation at her command are wholly inadequate to discern the spiritual Cause asserted by the Bible to lie behind all Natural phenomena. She deals exclusively with the material world as now existing, and however keenly she may examine this, however thoroughly she may understand its constitution and powers, nay, however perfectly she may even trace its historical development in the past, or predict, if it may be, its future destiny, still of the *origin* of this actual world of existence, either in respect to the matter composing it or the forces enduing it, science knows, and can know, nothing. The most advanced scientific generalization yet put forth—the doctrine of continuity—fails confessedly to touch this great question of *origin*. It may be pushed back so far as to be for a time lost sight of, but it is not solved, and ever and anon springs up again, the greatest problem of all, which science would most delight to unravel, yet before which she stands ever hopelessly silent and baffled[1].

[1] "If you ask me whether science has solved, or is likely to solve, the problem of this universe, I must shake my head in doubt. We

'Science knows nothing of the destruction of matter or force; she knows equally nothing of their

have been talking of matter and force; but whence came matter, and whence came force? You remember the first Napoleon's question, when the *savans* who accompanied him to Egypt discussed in his presence the problem of the universe, and solved it to their apparent satisfaction. He looked aloft to the starry heavens, and said—'It is all very well, gentlemen, but who made all these?' That question still remains unanswered, and science makes no attempt to answer it. As far as I can see, there is no quality in the human intellect which is fit to be applied to the solution of the problem.....The phenomena of matter and force lie within our intellectual range, and as far as they reach we will at all hazards push our inquiries. But behind, and above, and around all, the real mystery of this universe remains unsolved; and here the true philosopher will bow his head in humility, and admit that all he can do in this direction is no more than what is within the compass of an ordinary child."—PROF. TYNDALL, Lecture to working men at the Dundee British-Association Meeting, Sept. 1867, reported in *Chemical News*.

"All our Science, then, is but an investigation of the mode in which the Creator acts; its highest laws are but expressions of the mode in which He manifests His agency to us. And when the Physiologist is inclined to dwell unduly upon his capacity for penetrating the secrets of Nature, it may be salutary for him to reflect, that, even should he succeed in placing his department of study upon a level with those Physical sciences, in which the most complete knowledge of 'causation' (using that term in the sense of 'unconditional sequence') has been acquired, and in which the highest generalizations have been attained, he is still as far as ever from being able to comprehend that Power, which is the 'efficient cause' alike of the simplest and most minute, and of the most complicated and most majestic phenomena of the Universe."—

creation':—the dogma is sometimes hurled in our teeth as if it involved the disproof of the possibility of either. Yet, in truth, it is a dogma essentially harmonious with the belief in creation as taught by Scripture. Could science point to physical origination as a possibility, either in matter or force, the necessity for referring these to a spiritual Cause would be at an end; the fundamental doctrine of the dependence of all things on God would

W. B. CARPENTER, *General and Comparative Physiology*, 3rd Ed. p. 1080.

"To assume that the evidence of the beginning or end of so vast a scheme lies within the reach of our philosophical inquiries, or even of our speculations, appears to be inconsistent with a just estimate of the relations which subsist between the finite powers of man and the attributes of an Infinite and Eternal Being."—LYELL, *Principles of Geology*, 10th Ed. 1868. Vol. II. p. 613.

"After no matter how great a progress in the colligation of facts, and the establishment of generalizations ever wider and wider —after the merging of limited and derivative truths, in truths that are larger and deeper, has been carried no matter how far; the fundamental truth remains as much beyond reach as ever. The explanation of that which is explicable, does but bring out into greater clearness the inexplicableness of that which remains behind. Alike in the external and the internal worlds, the man of science sees himself in the midst of perpetual changes of which he can discover neither the beginning nor the end.....In all directions his investigations eventually bring him face to face with an insoluble enigma; and he ever more clearly perceives it to be an insoluble enigma."—HERBERT SPENCER, *First Principles*, I. 3 § 21.

be shaken well-nigh to overthrow. But she cannot. It is admitted that there is not in all the world of Nature which science has examined any power or principle capable of creating. The Biblical doctrine remains, then, not only untouched, but confirmed and supported by the negative testimony of science.

2. *God's independence of His creatures.*—Most carefully is this complementary truth set forth in the cosmogony. It is not enough to say that God created each successive member of the universe; but having created, He 'beholds' them, approves of them, gives them 'names'; thus implying in the most forcible way their absolute distinctness from Himself. In respect to life, where confusion between creature and Creator was most liable to occur, the narrative is especially guarded. All such ideas as emanation, all pantheistic notions of the one Divine Life appearing under diverse forms in every variety of creature, are forbidden at once by the terms of the narrative:—'the land sprouted forth', 'the waters swarmed forth', not 'God brought forth'. While with respect to man, not

even the expression of the second chapter, of God 'breathing into his nostrils the breath of life', is tolerated; but it is strictly 'in God's image', 'after His likeness'—resemblance of nature merely, not participation[1]. To Israel, where God's personality was sufficiently guarded in other ways, the intimate connexion of man's life with God's might be freely, because safely, spoken of. But for the world at large God's absolute independence of all other life or existence must be strenuously insisted on in every particular.

The entire agreement of science with Scripture on this head has been already implied in our remarks on the preceding one. Science recognises and avows that in no created things, either animate or inanimate, is there to be found any force or in-

[1] The account of man's creation contained in Gen. ii. 4—25 may be ascribed with tolerable certainty to the time, and most probably the pen, of Moses. The cosmogony itself has been already shewn to be of much earlier origin. In its present written form it must be assigned to the early part of the sojourn of the Israelites in Egypt, since it is plainly from the same pen as other portions of Genesis which can be proved from internal evidence to have been written at that period. To enter into this evidence here is of course impossible; it is merely mentioned to account for the distinction between these two sections of Genesis made above in the text.

fluence, latent or active, which can account for their primal origin. In other words, the energy and life of Nature is not a creating power, but a created. Even in the wildest theories as to the origin of life, where the vital principle is held to be a mere modification of physical force, the admission is made, however at times unnoticed or concealed, that life also is not a self-originated power; for does not science perpetually proclaim that of the creation of such force she knows nothing?—that there is no physical cause, either in itself or elsewhere, to which it can be ascribed? The creature in all its parts, then,—matter, force, and life,—is admitted to be independent of, and different in nature from, its Creator. Pantheism and Atheism are alike alien to science, if science be but heard impartially and fully.

3. *God's manner of creating.*—Every creative act is accomplished by a word of command. God says, 'Let it be', and it is. What are we to understand by this? Not surely the bare literal fact that before the creation of each new member of the universe certain words were audibly uttered calling

it forth. Such a view would be altogether contrary to the analogy of Scripture language. As well might we regard as literal the phrases, 'His right hand hath gotten Him the victory,' or 'His eyelids try the children of men.' In all such cases the language used is that of accommodation; God's acts being presented to us under the figure of those acts of men which most nearly correspond to them in character. He gained a victory by His own sheer, unaided strength;—it is described as 'gotten' by 'His right hand'; not because He really has a right hand, but because this would be the way in which *such* a victory on the part of a man would be described. He judges men, not by their profession, but by watching their behaviour;—it is spoken of as 'trying' them with 'His eyelids'; not because He really has eyelids, but because in this way would *such* judgment on the part of a man be spoken of. Just so here He is said to create by a 'word', not because words were actually used in creation, but because the fittest representation of the *kind* of power exerted was the human word-of-command. It was not a physical, material power, but a moral, spiritual one. God creating

the universe was not to be thought of as One putting forth labour upon His work, but rather as One standing aloof, calmly willing what should be, and accomplishing all by mere will[1]. The world that submitted to man only by material force, was to God as a docile servant that obeyed at a word. God's relation to Nature was to be thought of, therefore, as an absolutely different *kind* of relation to man's.

While every act of creation is thus presented as arising from a new spiritual impulse from God, it is no less clearly laid down that each was also in one sense a *fashioning* act. The materials for the later stages of creation existed ready to hand in the results of the earlier. The forces of Nature already at work had their part in bringing about the ends desired. Nowhere is this so clearly set forth as in the account of the creation of life; just where, perhaps, we should least have expected it. At each stage there is, indeed, as elsewhere, a special fiat, implying a new spiritual impulse. But

[1] In the Hindu cosmogony it is said that the Eternal One *thought* 'I will create worlds,' and the worlds were. The same idea as here, only in another and less objective form.

the fiat is addressed to the already existing 'land' and 'waters', commanding them to 'bring forth'. This 'bring forth' too is everywhere the Hiphil or *causal* voice of the Hebrew verb; while wherever possible the verb employed is identical in its root with the name of the things brought forth—'let the land sprout forth sprouts', 'let the waters swarm forth swarming things'. It is thus implied (1) that the land and waters had an active, and not merely a passive share in the origination of plants and animals; (2) that this origination was proper to their nature, not a strange unaccountable thing, but what they were fitted naturally to accomplish, directly the new impulse implied in God's command was given them. The perpetual generation of life in the world of Nature was a phenomenon familiar to every one. The cosmogony adopted this as the truest representation available of the original creation of life. Then also from pre-existing materials acting according to their proper nature new beings arose; but it was in consequence of a special impulse from above Nature, then first given. Without that impulse no life would have arisen, yet it was an impulse co-working with Na-

ture, and assigning to Nature a share in creation *like* that which she now has in ordinary generation.

In other cases where this kind of double action is not so distinctly asserted we have the general statement of Gen. ii. 3, that God's method of creation was throughout 'by making'; i. e. it was a fashioning process, rather than a series of creations totally *de novo*. The precise measure in which these two complementary principles, of God's creative impulses, and Nature's normal powers, were respectively concerned in any particular item of creation, it was no object of the cosmogony to set forth. We are merely required to accept both, to ignore neither.

Unable as science is to reach creation at all in her investigations, it is plain that in regard to the manner of creation she can afford no direct evidence. The idea, however, that its successive stages were the result, partly of natural development, partly of Divine impulses, is one essentially harmonious with her discoveries. Let it be granted, says the man of science, that there existed the materials of our present earth; let it be granted that it received radiant force as at present from

the sun; let it be granted that volcanic action was at work within; let it be granted that life was there, in both its forms of vegetable and animal; &c.; and not only may the phenomena of to-day be accounted for without assuming any creative act whatever, but the past history of our globe likewise, throughout all those ages of gradual development which geology has disclosed. The exact extent to which this is true, especially in regard to the development of living beings, is a matter of keen discussion in the scientific world at the present day. The principle, however, is accepted in regard to other points by all. With respect to the origin of these fundamental elements, on the other hand, it is agreed that science knows nothing[1]. They are many in number, and

[1] "There exist in nature a number of permanent causes, which have subsisted ever since the human race has been in existence, and for an indefinite and probably enormous length of time previous. The sun, the earth, and planets, with their various constituents, air, water, and other distinguishable substances, whether simple or compound, of which nature is made up, are such Permanent Causes themselves. These have existed, and the effects or consequences which they are fitted to produce have taken place (as often as the other conditions of the production met) from the very beginning of our experience. But we can give no account of the origin of the Permanent Causes themselves. Why these particular natural agents

in several cases independent of each other, so that the absence of one would not necessitate the absence of another, though considerably modifying its effects. All this is clearly in exact accordance with the teaching of Genesis. Whether, further, these fundamental elements of the earth's physical constitution acknowledged by science correspond in detail to the impulses of creation recorded in the cosmogony, is a question to be discussed hereafter. All that is here noted is the harmony in *principle* between the scientific view and the Biblical, which both recognise in the phenomena of creation the working of Natural causes, yet both point also to something beyond these as necessary to account for their existence and efficacy.

4. *God's government by fixed law.*—He is represented not only as making all the parts of the universe, but as making each for a special definite purpose, and assigning to each a particular pro-

existed originally, and no others, or why they are commingled in such and such proportions, and distributed in such and such a manner throughout space, is a question we cannot answer."—J. S. MILL, *Logic*, 7th ed. 1868, III. 5, § 7.

vince and work. Thus the light is to divide day from night; the expanse is to separate waters above from waters below; the luminaries are to be for signs, and for seasons, and for days and years; the herbs are to be for food to man and beast. The same idea appears in another form in the *names* which are given to certain members of the universe, designating their place and function—'day', 'night', 'heavens', 'land', 'seas'. In yet other cases special commissions are given; as, to the animals, 'Be fruitful and multiply'; and to man, in addition, 'Subdue and have dominion'. Nothing is left to adjust itself, or even find out its proper office, but all is arranged beforehand by the great Designer. And this arrangement is plainly not a temporary, but a permanent one. For all time, as much as for the present, everything is subject to law. "He commanded, and they were created; He hath also established them for ever and ever; He hath given a decree, and it shall not pass."

How completely science is in accordance with Scripture on this point it is unnecessary to insist on at any length. The reign of law throughout

every department of Nature is the best established of all the larger generalizations of science. And this in both the particulars implied in the Biblical doctrine;—(1) the existence of a distinct function and purpose in every created thing, to which its constitution and properties are exactly adapted; and (2) the stability and invariableness with which the laws governing all things are maintained. It is impossible to imagine two testimonies more absolutely agreed than are the voices of Scripture and science on these points.

5. *God's method of gradual development.*—He does not create a perfect universe at once, but slowly builds it up step by step. As He first creates it 'the earth is empty and desolate', and only at the close of a whole week of progress does it become fully ordered and peopled after God's mind. Nor is this all. At every stage of the work God surveys the steps already taken, and pronounces them 'good'. It may seem strange to say so. What good, men might say, is the light with no eye to see it? What good is the sea, or the land, or the expanse, with none to inhabit

them? What good are the plants, with none to use them? But God thinks differently. Not only does His foreseeing eye recognise the beauty and fitness of each element in creation regarded as a co-working part of the complex whole, but He discerns also a beauty and fitness intrinsic to each. And so, while He finds supreme satisfaction only at the close, when He can say of the whole finished work that it is 'very good'; yet there is a lower satisfaction, calling forth a lower meed of approval (simply 'good'), at every step. Hence He is in no hurry to carry out the entire scheme at once, but will rather develope it slowly, stage by stage.

It needs but few words to point out the concurrent witness of science on this head also. The whole science of Geology,—what is it but one overwhelming testimony to the fact that the furnishing and perfecting of the earth has been a gradual process, not accomplished all at once, but slowly, step by step? To some it has seemed a strange, an almost unaccountable thing, that the earth should have existed for ages peopled only by the lower animals, without man. To the narrow

self-conceit of those who regard man not only as the most important, but as the only important member of terrestrial creation; who regard all things as arranged on the earth solely for his benefit and use;—to such it must indeed seem strange that for by far the larger part of our earth's history, as disclosed by Geology, there were no human beings whatever inhabiting it, but only inferior creatures. If man is the proper end of terrestrial creation, why was the preparation for his coming so unnecessarily long and slow? To all this science answers, that however true it may be that at the present day man is the centre of the earthly universe, yet it is certain that in past ages he was not so; and that these past ages are of such magnitude, and present such characteristics, as to make it impossible to regard them as mere preparations for his advent, but that they have a beauty and an excellence strictly their own, inferior it may be in degree to the beauty and excellence of the period since his introduction, but yet essentially similar in kind. In a word, the truth enforced by Geology is exactly the same as that taught by Genesis—man is the highest mem-

ber of terrestrial creation, but the excellence of creation does not depend upon his presence, for there were stages of creation prior to him which well deserved the epithet 'good,' and on these stages the Creator could look with a complacent satisfaction only inferior to that with which He regarded His completed work. The process of creation was not a hurried, rapid one, but slow and gradual.

6. *God's principle of subordination.*—The intrinsic excellence of each stage of creation, just noticed, is not by any means their only, or even most important characteristic; they have wider and higher relations. Each one is a step onward and upward, and so is not only 'good' in itself, but is necessary for a yet better one to come, and is introduced in preparation for it. This is very beautifully and subtly expressed in the arrangement of the work under the six days. Attentively considered, these six days are found to fall into two corresponding and parallel halves, the first, second, and third answering severally to the fourth, fifth, and sixth. Thus on the *first* day, light is called

forth; on the *fourth* day, luminaries or light-bearers. On the *second* day, the expanse is formed, and the waters divided; on the *fifth* day, expanse and waters are peopled with appropriate creatures. On the *third* day, the dry land appears and is clothed with vegetation; on the *sixth* day, beasts and man are made to dwell on the land, and consume the vegetation. In this way the universe is made to appear, both in past and present, as an organized whole, in which every member depends upon those below, and has obligations to those above. While the crowning point being plainly man, to whom dominion over the whole is given,—man, however, as God's representative—the grand truth at once beams forth, that man's office and obligation is to use and govern all things in subordination to his Maker; and hence, that faithful occupation, not selfish enjoyment, is his part and mission on the earth.

Reserving for a later stage of our inquiries the consideration of the facts here alleged, the identity in principle between the cosmogony and science on this head needs but few words to demonstrate. That all things in Nature are linked together in an

intricate web of mutual dependence, so that none can exist and flourish without the assistance of some other, and each by filling its own place, and obtaining that which itself wants, at the same time ministers to and supports others;—this is too trite, too familiar, to need insisting on. Equally clear is it that this dependence follows the same kind of order as that depicted in Genesis. The higher members of creation are dependent upon the lower, not the lower upon the higher. Animals depend absolutely upon plants for food, and so could not exist without them. The dependence of plants upon animals is altogether different; the latter being merely the auxiliaries, not the essential conditions of vegetable life. So again plants depend upon soil; plants and animals alike upon the atmosphere; so that without soil and atmosphere they could not live. Yet neither soil nor atmosphere depend in anything like the same fashion upon them, and could be well conceived as existing in their absence. The parallelism in character between the view of Nature thus presented, and the subordination taught in the cosmogony, is unmistakeable.

While for the crowning feature of all, what truth has science more repeatedly and emphatically enforced than this—that all things in the earth are under the dominion and for the use of man to a degree which they are not to any other creature? He is of all terrestrial beings in fact the most dependent, and yet appears at first sight the most independent, because in him are found powers of adapting and controlling the inferior members of the world, such as no other creature possesses. In a word, those below him in rank are not only naturally suited to supply his wants, but they are under his dominion. He, by his higher faculties of mind, can compel service from them all; and so by choosing on whom he will depend, make himself apparently independent. Once more, precisely the distinctive position assigned to him in Genesis.

7. *God's time of working.*—Hitherto, in considering the principles of Natural theology taught by the cosmogony, it has sufficed briefly to mention them, point out the particular clauses of the narrative intended to convey them, and then proceed at once to the testimony of science on the

same head. Nor is the intrinsic character of our present point such as to require any different mode of treatment in its case. Were it possible to divest the reader's mind of all the theories which a protracted controversy has gathered round the subject, its elucidation and illustration need occupy no larger space than has been devoted to some of the points already considered. This, however, is impossible. The theories are there, and must first of all be cleared out of the way, if any good is to be done. They involve two questions:—(1) Do the six days spoken of embrace the whole history of creation, or only its latest stage? (2) Is the word 'day' to be taken in its ordinary sense, or otherwise? To an unprejudiced reader of Genesis, knowing nothing of modern controversy, both questions would seem to be so trite and simple as not to require a moment's consideration. The former alternative in both instances appears the only one tenable for a moment. Not thus lightly, however, can we venture to dismiss their discussion. However decisive may be the verdict of such an unbiassed mind, there has been too much ingenuity expended on behalf of the contrary opinions to

allow us to rest on common sense merely as a sufficient ground for their rejection. We must examine the evidence in detail.

First, then, of the question, Do the six days embrace the whole of creation, or only part? No one will dispute that the cosmogony as a whole embraces the entire history of creation. Its opening clause—"In the beginning God created the heavens and the earth;" and its closing subscription —"These are the generations of the heavens and the earth in their creation,"—are alike conclusive on this point. At the close of this whole work of creation, then, we find the sabbath of rest. This sabbath, we are repeatedly told, was a rest from *all* God's work,—"And the heavens and the earth were finished, and *all* their host. And God finished on the seventh day His work which He made; and He rested on the seventh day from *all* His work which He made. And God blessed the seventh day, and hallowed it; because in it He rested from *all* His work which God, by making, created." The stress upon the 'all' here is unmistakeable. But the seventh day's rest being thus a rest from *all* the work of creation; to suppose, as

some have done, that the preceding six days, where the gradual process of creation is described, include but a portion, and that a very small portion, of creative work, is plainly to destroy the proportion and symmetry of the narrative altogether. God's sabbath, on this view, becomes a sabbath not after six days' work, as the narrative distinctly implies, but after six days' work and a great deal more, of which great-deal-more the narrative makes simply no mention and gives no hint whatever!

On what grounds, then, is this theory of the partial scope of the six days put forward?

1st. It is said that geology requires us to regard the time spent on creation (i. e. the time prior to, and ending in, the appearance of man on the earth) as enormously larger than six days. That the narrative of Genesis must, therefore, in some way be made to cover, or at least allow of, such a longer period. That the only point in the narrative where a break can be imagined into which these geologic ages can be slipped without violence, is between the first and second verses. That to this 'blank space', therefore, is to be referred

the whole, or very nearly the whole, of that past history of the earth which geology has disclosed.

2nd. It is said that the description of the earth's condition given in the second verse accords best with the idea—some would say, actually requires us to believe—that there had been an overthrow of some past order of things, upon which the new order was now to rise. The special point insisted on is the expression תֹּהוּ וָבֹהוּ ('empty and desolate'), which, it is alleged, is elsewhere used to denote a *ruined* condition of things; while in one place (Is. xlv. 18) it is distinctly asserted that when God created the earth He did *not* create it תֹּהוּ (i. e. 'empty'), the same word exactly as in Gen. i. 2.

For the first of these positions, it is sufficient to refer to the canon of interpretation laid down at starting, "that we are to assign to every part that meaning which the words would naturally suggest to one unacquainted with science" (p. 26). Those who knew nothing of geologic ages could have no reason, on their account, for imagining a 'blank space' of enormous duration between the first and second verses. And we are bound in

honesty, as already shewn, to take *their* view of the passage, rather than any other, as the true one. Let those who advocate such interpretations consider for a moment what they involve. If it be admitted that science has cast such a new light upon the history of creation as to make the natural significance of the six days' work, as all-embracing, untenable; and a new interpretation is required, altogether alien to the spirit of the cosmogony; then a blow has been struck at the authority and divinity of the latter even more formidable than direct rejection, for whereas the bolder course of rejection ascribes no more than ignorance to the author of the narrative, the weaker one of altered interpretation in effect asserts his *cunning*, in so framing his account as that, while bearing one meaning plainly on the face (deceiving those who for ages looked to it for truth), there should still be a loophole for escape when facts should eventually prove that natural meaning to be a false one[1].

[1] It has not been lost sight of in thus speaking that there were some who, before the discoveries of Geology, held a similar view in regard to a space between the first and second verses. But whence

The second position deserves more respectful attention, as professing to find a reason for the theory within the passage itself, or at all events in Scripture. The word תֹּהוּ is used elsewhere to describe a ruined condition; therefore this is the sense to be attached to it in Gen. i. 2;—this is the argument. Now if it could be shewn that תֹּהוּ is never used of any other state or quality but that of ruin, there would be some force in the reasoning. But how stands the case? Without doubt it is used at times to describe the desolation consequent upon ruin, as in Is. xxiv. 10, xxxiv. 11; Jer. iv. 23. But it is also used as commonly of the desolation characteristic of a wilderness, where the idea of ruin is altogether out of sight, as in Deut. xxxii. 10; Job xii. 24; Ps. cvii. 40. While still oftener it is used, not of desolation at all, but as an equivalent to 'vanity', 'nothing', &c., as in Job vi. 18; Is. xxix. 21, xl. 17, xli. 29,

did this idea originate? Simply in the difficulty where else in the cosmogony to place the creation and fall of angels. The *principle*, therefore, on which these ancient interpreters acted was the very same as that of their modern followers—the solution of imaginary difficulties by ignoring the natural meaning of the text and introducing ideas altogether out of harmony with its structure.

xliv. 9, xlix. 4, lix. 4. From this it is clear that the radical significance of the word is not even 'desolation', still less 'ruin', but 'emptiness' (p. 11), since this sense only is sufficient to account for all the uses to which it is put. When, therefore, Gen. i. 2 says that 'the earth was תֹּהוּ,' it simply describes an actual state of 'emptiness', without thereby giving the slightest hint of any kind as to how it came into that condition, whether by original creation, or subsequent catastrophe. But it is said that in one passage, Is. xlv. 18, we are distinctly told that God did not create the earth תֹּהוּ. Upon this part of the argument it may be remarked, (1) that the question at issue is not whether the earth ever was desolate during the process of creation (for this both views equally admit), but *when* it was so; one view placing this desolate epoch at the commencement of creation, the other at the commencement of its latest stage. Had now Isaiah said that God did not create the earth desolate 'at first', this might have availed somewhat; but since he makes no mention of time whatever, it is plain that his statement leaves the real question at issue altogether untouch-

ed[1]. What then does Isaiah mean? This is clear the instant we look (2) to the latter part of his sentence, God "did not create it תֹּהוּ, but He made it *to be inhabited.*" Had Isaiah intended to deny that the earth when first created was in a desolate condition, he would surely in the latter clause have said what condition it *was* created in. But this he does not do; his latter clause is not about condition at all, but *purpose.* So also, then, must the former clause be understood; and his meaning will be this:—emptiness was not the end God had in view when He created the earth, but habitation. A truth which, as before, leaves the point under discussion quite untouched.

There being thus absolutely no reason for supposing a break between the 1st and 2nd verses, or for assigning the description of ver. 2 to a later period than that to which it would naturally be

[1] That the use of בָּרָא ('create') here does not fix the act spoken of to be a primal one, is evident from such passages as Gen. i. 21, 27; Is. xlv. 7; which, if this view were taken, would require us to regard 'darkness', 'evil', 'sea-monsters', and 'man' as belonging to the earliest stage of creation! There does not seem, indeed, in Hebrew usage to be any sharp distinction between 'create' and 'make', 'form', &c. when used of God.

referred by an unprejudiced reader, further argument might seem to be unnecessary. Considering, however, the importance of the subject, it may be well to glance briefly at three additional reasons which may be adduced for adopting this natural construction as the true one.

1st. The manner in which the second verse is linked on to the first is not such as to suggest the idea of a space between them, but rather the contrary. Wherever elsewhere in the chapter one event or state of things is described as succeeding another, the *verb* is invariably placed first, in order that the sequence of the several acts and changes narrated may have especial prominence. The force of this mode of narration may be represented by the following modified translation of a short passage, ver. 3—5, "Then said God, Let there be light. Then was there light. Then saw God the light, that it was good. Then divided God the light from the darkness. Then called God the light day, and the darkness He called night. Then was there evening. Then was there morning; one day." Such a rendering no doubt, by its substitution of 'then' for 'and', exaggerates

the force of the construction not a little; nor is it intended to assert for an instant that wherever it is employed, temporal sequence is thereby implied. All that is alleged is this: that wherever in *this narrative of creation* a sequence in time *is* described, this construction is invariably adopted, as being the most suited to give prominence to such an idea. The cases in which a different mode of construction is employed (i.e. the conjunction and noun placed first, the verb second) are (i) the second clauses in the account of the naming of Day and Night, and of Land and Seas, these double namings being regarded not as consecutive but simultaneous, (ii) the clause 'male and female He created them', which is explanatory of, and so in like manner simultaneous with, the immediately preceding one; and (iii) the statement in verse 2, which runs, not 'then was the earth', but 'and the earth was'. No reason can be assigned for this last exception, unless it be that the writer desired to mark this statement as referring to the *same time* as that spoken of in ver. 1. Had he meant in ver. 2 to describe a condition into which the earth passed subsequently to

its original creation, he would surely have used the same construction as that which he invariably does further on, when consecutive events and conditions are denoted[1].

2nd. No one who attentively reads the description itself can fail to see that in every particular it has reference to what is to follow, not to anything that may possibly have gone before. Thus 'empty and desolate' is contrasted with the fulness and order about to come, 'darkness' with the light, 'the deep' with the divided waters and dry land; while the 'hovering' of 'the Spirit of God' is the natural preliminary to the creation of life. Of any previous order, fulness, light, or land, we read nothing.

3rd. On this point we have not only the clear language of Genesis, but the if possible still more conclusive words in the fourth commandment, whose importance as an authoritative re-statement of the main outlines of the cosmogony none will

[1] The strict connection of verse 2 with verse 1, without any break between, is the view taken by Benisch, De Wette, Kalisch, Tuch, Knobel, and Keil. The contrary is maintained by Delitzsch, Kurtz, and Pusey.

dispute. Here it is stated categorically, "In six days Jehovah made the heavens and the earth, the sea, and all that is in them" (Ex. xx. 11); and, again, "In six days Jehovah made the heavens and the earth" (Ex. xxxi. 17). Anything more precise than this can hardly be imagined.

We conclude, therefore, that in the six-days' work is to be included the entire history of creation as given in the cosmogony, from the first verse to the last. This point being settled, we turn now to the second question, Is the word 'day' to be taken here in its ordinary sense, or otherwise? If the word 'day' be used of a period of time, we find in Scripture, as everywhere else, but two meanings which can be assigned to it—a period of twenty-four hours, or a period of twelve.

True, occasionally in prophecy days are made the symbols of longer periods, as years (e.g. Ezek. iv. 4—6); but this in no way affects the question at issue, since (1) the natural sense of 'day' is not even here in the least put aside, but merely used as a type or emblem of something else; and (2) the cosmogony is not a symbolical prophecy, but an historical narrative.

True, further, that not unfrequently 'day' is used in a loose, indefinite sense, as in the phrases 'day of judgment', 'day of the Lord', &c. This also, however, is useless for our present purpose, since we have not in these phrases really any longer or different period of duration spoken of, but rather the whole idea of duration put out of sight, and 'day' used merely in the sense of epoch, as is evident from the fact that in such expressions we can invariably substitute a different term, as 'hour', or a general term, as 'time', without in the least affecting the sense. In this way we may speak of 'the day of creation', as, indeed, is done in Gen. ii. 4, v. 1; but this plainly means no more than 'the time when God created', the duration of this time being wholly left out of account. But that the six days are not to be thus taken is evident,—(1) from their being successive days, following one another in an orderly and natural manner; (2) from the mention of 'evening' and 'morning' as constituting the concluding portion of each; and (3) from their being in the fourth commandment paralleled with the days of human toil, which unquestionably are periods of

definite duration, and unquestionably of twenty-four hours' length. The notion, therefore, advocated by some that the word here translated 'day' is to be taken as intended to denote a period of long duration, must be met by the counter-assertion that nowhere in Scripture or elsewhere has the word 'day' any such significance. To assume such a meaning merely to get over difficulties is unwarrantable.

Are we, then, to conclude that it was the intention of the cosmogony to teach us that in six literal days of twenty-four hours each the whole of creation was accomplished, from beginning to end? Surely not. The description given us of creation certainly speaks of 'days', and these days are, as we have seen, without doubt literal days, and not long or indefinite periods. It by no means follows, however, that because the *description* speaks of literal days, therefore the *realities* thus described were also days. Such a doctrine would be wholly foreign to the spirit and design observable throughout. This may seem a somewhat paradoxical assertion, but a little consideration will show that the paradox exists only in appearance.

The 'days' of the *description* are ordinary human days; the 'days' of the *reality* were Divine days. Now, upon what principle does all Scriptural description of God's being and God's acts proceed? It is upon that of accommodation. Human members, human feelings, human actions, are freely attributed to God, though literally most incongruous, just because in no other way could the human mind grasp the reality of that which was intended. To speak under the imagery of such ideas was no doubt to speak most inadequately and inaccurately, but at least the kind of notion was engendered which was required, and it was felt as a real thing. To have spoken abstractedly might have been theoretically more correct, but it would have been practically far more inadequate and faulty, because not only would the notions conveyed have been far more misty, but especially the all-important element of reality would have been wanting. The former method, therefore, rather than the latter, is that invariably adopted (of course, carefully guarded against misconception) by Scripture. Now, what effect has this upon interpretation? When we come to such

expressions as 'God's arm', 'God's eye', 'God's mouth', how do we deal with them? We assign no new sense to the words themselves; 'arm' as much means arm, 'eye' eye, 'mouth' mouth, here as anywhere else. But we say that while the words are to be taken in their literal sense, the ideas they convey are yet not to be pressed literally, but only by way of accommodation. These terms, 'arm', 'eye', 'mouth', are the best human representatives of the Divine realities denoted; their fitness as such representatives depending upon their relation literally to man being similar in *kind* to the relation of these Divine realities to God. So in exactly the same way we treat such statements as that 'God went down to see', that 'God smelled a sweet savour', or that 'God repented'. We do not say that 'go down' means anything but go down, or 'smell' anything but smell, or 'repent' anything but repent. Yet we do not ascribe any one of these actions literally to God, but we assert that there were actions of God having the like relation to His nature, which these actions, taken literally, have to our nature. The natures are widely different, and therefore the

parallelism must not be pressed too closely, but still it remains the truest representation of the actual verity which the imperfection of human thought will allow of.

Wherever, then, a description is given of an action or attribute of God, in language drawn from actions or attributes of men, this rule is to be applied:—the *description* is to be taken in its natural, ordinary sense, but its relation to the *reality* is simply that of being the truest accommodative *representation* which the human mind was capable, on the whole, of receiving.

Now that upon this principle of representative description the entire cosmogony is constructed, is abundantly evident. As already noticed, when we are told that God created by word-of-command, we do not understand by this a literal utterance of audible words, but we understand that the power or influence by which He created was not a physical or material one, but a spiritual or moral one, of which the fittest representative was the human word-of-command. So when we are told that God gave names, or commissions, to certain members of His universe, we do not

take that to mean a literal bestowing of verbal titles, or an actual spoken address, but we take it to mean a defining of character, office, or mission, answering in His sphere to what the giving of names and commissions would be among men. So, again, when we are told that God 'made' things, or that having made them He afterwards 'beheld' and 'blessed' them, we do not suppose that His fashioning, inspection, or approval, were the same with what a man's would be, but only sufficiently like in their relation to be representatively described under these terms. So, once more, when we come hereafter to speak of God's rest at the end of His work, variously described in Scripture as 'leaving off' (שָׁבַת, Gen. ii. 2, 3), 'sitting down' (נוּחַ, Ex. xx. 11), and 'taking breath' (נָפַשׁ, Ex. xxxi. 17), will not every one at once concede that such expressions, too, are only true of God by accommodation?

In every one of these cases, it will be observed, precisely the same principle of interpretation is followed as that laid down above. In no instance is the natural, ordinary meaning of the words describing God's acts in the least degree tampered

with; 'said', 'called', 'made', 'saw', 'blessed', 'rested', are all taken in their usual sense, and none other; but it is insisted that they are one and all representative descriptions, drawn from human analogies; to press which literally, as exact statements of what God really did, would be altogether unwarrantable.

If, then, this be the principle on which God's acts and attributes are universally spoken of in Scripture; if it be the principle on which the whole of this very passage is constructed,—is it not also the principle, rather than that of literal force, on which we should interpret the word 'day'? When in the cosmogony we read of six days, we have surely no more right to suppose from this that in these literal periods God actually created all things, than we have to suppose that He literally spoke, named, or rested; but we are to understand that He created all things in such periods of time as might to man's finite mind be most fitly represented by six days. The whole history then is at unity with itself, being all constructed on the same plan. Did man wish to know how God created?—he had the image in

his own command over his immediate servants. Did he wish to know how God regarded His creation?—he had the image in his own satisfied inspection of some finished work. Did he wish to know what God did after creation?—he had the image in his own repose after toil. Did he wish to know *how long* God took to create?—he had the image in one of his own week's labours. Vast as the universe was, and various as were its inhabitants, he was to regard it as being to God no greater task, no longer or more arduous labour, than a week's work to himself. A single week!—let him choose out the very busiest week he had ever known, the week employed about the most momentous work he had ever been engaged upon, and how small and insignificant it seemed compared with the work and capabilities of his whole life! Just so, he was to believe, might God look back upon the creation of the universe, as a small and insignificant labour, just one among thousands, when compared with the work and the powers of His whole life-time.

This, then, is the doctrine of the cosmogony in regard to *time*. No positive information as to

the actual time, such as might satisfy men's curiosity; no hint as to whether it were in itself long or short, a million of ages or a few hours; but only a vivid picture of the relation in which that time stood towards the whole time of God's being, such as might elevate man's conception of his Maker's greatness.

Further, if need be, to establish this view of the six-days' work as the true one, we may notice—

1st. That it is the only one which makes these days of creation the embodiment of a theological principle. To be told that in six literal periods of a particular length God made the world, would be simply to gain a new fact in Natural science. The time of creation would be brought within man's comprehension, for he could compare it with other measures of time, as e. g. of his own life, or of known human history. He would, in other words, know exactly what the time of creation was in relation to himself. But of its relation to God he would know nothing. Whether to Him the time were long or short he could only (on this view) know from information derived else-

where as to how long God's life was. In a word, so far from the cosmogony enlightening men in Natural theology, it would need (on this view) that men should first be instructed in theology from other sources before the theological import of one of its most striking features could be in the least perceived. Now had the object of this history been to teach science, this would have been in no way surprising. But we have seen that its object was not to teach science, but theology (p. 23—26). If then the literal view of the six days be adopted, they at once become an exception to this, since they teach no theology but only science. The view taken above, however, that they represent the relation between the time of creation and God's whole life[1], does assign to them a theological import, rather than a scientific one. The six days of creation, thus understood, convey to men no new fact in science whatever; they

[1] Of course the representation is inadequate, since no fragment, however small, of a finite life could be so insignificant in its relation to that life, as the vastest period is in relation to eternity. This kind of inadequacy however is common to all such anthropomorphic figures, and is hence no valid objection to the interpretation advocated.

simply embody a principle of Natural theology such as men could in no other way have arrived at. On this ground also, then, must this view of their significance be regarded as much the most probable.

2nd. Not only does this view leave untouched the parallelism insisted on in the fourth commandment between the days of creation and the days of man's labour, but it makes it even truer and fuller than on the literal view. 'Days' are not the only things thus paralleled, but also 'work' and 'rest'. That in the two latter items the comparison is of an accommodative character, none will deny: God's 'work' is not the same thing as man's work, nor His 'rest' the same as man's rest. If, then, the 'days' of work and rest are yet insisted on as identical in both cases, it is plain that the parallel halts; since why, amidst such difference in the character of occupation, should the same absolute limits of time be observed by both parties? But if 'days' are also representative terms, on the same scale as 'work' and 'rest', then the parallel is perfect, since all alike denote Divine realities, answering to human

ones in precisely the same manner. As truly as God's work is similar to our work, and His rest to our rest, so are His days to our days. We can and ought to copy Him, because, although the actual character of each of these items is different in Him from what they are in us, yet the relation which each bears to the other (the essential point of the parallel) is the same.

So far, then, as the principle of the matter goes; so far as the design of the cosmogony is concerned; so far as its use in the fourth commandment bears witness, the testimony of all is strongly in favour of the representative view of 'day' rather than the literal. One thing more only can be demanded before this view be finally accepted as established. If what has been urged is sound, it ought to follow that in this representative sense was the expression actually taken by those for whom the cosmogony was originally intended, i.e. those unacquainted with and unbiassed by the discoveries of science. Evidence that it was so taken appears in several ways.

Thus (i) the principle insisted on, that human measures of time when applied to God are only

representative, was one which the Biblical writers were quite familiar with. We may cite three passages by way of illustration—

Job x. 4, 5. "Hast Thou eyes of flesh, or seest Thou as men see? Are Thy days as man's days, or Thy years as the days of man?"

Ps. xc. 4. "A thousand years in Thine eyes are as yesterday when it is passed, and as a watch in the night."

2 Pet. iii. 8. "One day with the Lord is as a thousand years, and a thousand years as one day."

Of these, the first passage is remarkable as placing 'days' and 'years' on precisely the same footing in their application to God, as 'eyes' and 'seeing'. Every one admits that the latter are representative terms. In the same manner, plainly, did Job regard the former also. The other two passages tell us how differently the same periods of time look when viewed by man, and viewed by God. An event which seems to us enormously distant, seems to God but as a thing of yesterday[1].

[1] That there is no special relation intended by the Psalmist between a day and thousand years, as some might hastily imagine,

And so too when He speaks of the future, that which He says shall come 'quickly' may be thousands of years hence, so different is the relation of such periods of time to God and to us. To men impressed with such ideas there could be no difficulty in rightly apprehending the 'days' of the cosmogony.

(ii) If such a view of the six days were not current, it is difficult to account for the references in Scripture to creation as so exceedingly ancient. Look, for example, at such passages as Ps. xc. 2, or Prov. viii. 22—26, where the eternity of God and His Wisdom is enforced by the statement that They existed "before the mountains were brought forth, or ever the earth or the world was made", &c. On the literal view of the creative week the mountains were simply *two days older*, the whole universe but *five days older* than the human race. Yet who does not feel that to substitute 'man', for 'mountains' or 'world', in such passages, would have been, in the mind of the writers, a change which emptied them of

is evident from the second clause of his sentence, where the same period is compared with a fraction of a single night.

all their force? Is it not clear, then, that in thus looking back to the creation of Natural objects, as to a time of great antiquity, the Biblical writers were not thinking merely of the three or four thousand years which their chronology assigned to man's existence on the earth, but of some far longer and anterior period with which man had nothing whatever to do? Yet, in the face of the record of Genesis, how could they have done this except by regarding its days as representative, not literal?

(iii) The traditions of the cosmogony which have been found among other nations, afford the clearest of all testimonies to this view. In most of them, indeed, the element of time has totally disappeared; but in those in which it has been preserved the evidence for the representative sense of the six days is very striking. One tradition only, the Indian, has any mention of 'days' in its account of creation. During 360 days, or one year, it says, Brahman lay concealed within the world-egg, ere he split it in two and formed of its two halves heaven and earth. But what are these days? The same tradition tells us that Brahman's

days are not days of 24 hours each, but are equal each of them to 12,000,000 years. Such was the Hindu conception of the meaning of a human measure of time as applied to God. Such their idea of how long time one stage of creation was parted from the next. Yet they still, be it observed, spoke of these enormous periods under the term 'days'. Still more to the point, though in a different way, are the traditions of Persia and Etruria. Here we have the whole of creation parcelled out into six stages, taking place in six equal and consecutive periods of time; the scope and order of these stages being closely similar to that of Genesis. Here, then, if anywhere, should we expect to find literal days spoken of, if in this sense was the primitive cosmogony understood by those of old. But what do we find? Not days, but six successive 1000 years, each of which answers in character to a 'day' in Genesis.

Nothing can be plainer than this testimony. The days of creation were felt by ancient nations, knowing nothing of geology or scientific difficulties of any kind, to be but representative terms, really indicative of far longer periods. They

could only have felt this from the principle of the representative character of such human terms as applied to God having been, at least at first, so thoroughly familiar as to need no explanation to make it apparent. But if so, then doubtless after this manner were the days understood by all those for whom the cosmogony was originally designed.

It seemed necessary to go thus fully into the principle and evidence of the view here advocated, from the immense confusion of opinion which has hitherto prevailed upon this question of the time of creation, and the perpetual conflict in which what is thought by one or another to be the doctrine of the cosmogony is brought with the discoveries and conclusions of modern science. It is the old story over again,—men have put their theories in regard to Scripture in the place of its real teaching, and then are alarmed and angry to find them opposed to the plain witness of facts. The narrative has been twisted and turned, this way and that, to make it harmonize with science, but still discord has reigned triumphant. Interpretations have been altered, science

abused, science perverted, and still no better result. And no wonder, since all this while it was not the Bible that was clashing with science, but the mistaken fancies of exegetical theorists. Putting these aside, and getting back at last to what has been shown to be the simple original meaning of the passage itself, what becomes of this much-vaunted contradiction between Genesis and geology? It has dissolved into thin air, and vanished altogether. A contradiction between Genesis and geology in regard to the time of creation is simply impossible. Their teaching on this head is so essentially distinct in character, that they cannot even come in contact. Whatever science may discover or conclude is of necessity limited to time *as related to man*, as measured by human standards; and of this the record of Genesis tells us nothing. What it does tell us is the time of creation *in its relation to God;* a point completely beyond the domain of science, on which it is impossible that science should ever tell us anything. One thing only science can do, which in the least affects this doctrine of the cosmogony in regard to time;—by the

help of science we may obtain a truer conception of the real dimensions and marvellous constitution of the universe, a truer idea of the enormous lapse of time during which it was being elaborated to its present pitch of perfection; thus obtaining also (what is of far greater importance) a truer view of the nature of His eternal greatness to whom the whole of this vast work seemed but as one week's labour! The same lesson as before, but taught upon a grander scale, and with a keener force.

8. *God's rest.*—The work of creation is not carried on continuously, nor is it carried on for ever,—there are pauses, and there is a final rest. We might have expected to have heard that when God called forth the light to shine upon the dreary abyss of waters, He would proceed at once to the next step in creation, and so on. But no, He pauses; 'evening' comes, the work is suspended; and not until 'morning' also comes, closing the first day by ushering in a second, is the work resumed. Creation is advanced another stage, then another pause ensues; again 'evening' comes,

and again 'morning' comes, before the third day's work begins[1]. So it goes on until the end, when in addition to the nightly pause there comes a whole day's rest, holy and blessed. What mean-

[1] This would seem to be the true meaning of the six times reiterated clause, "And there was evening, and there was morning." The A. V. indeed, by its mistranslation "the evening and the morning were" &c., represents these as *constituting* the day just described; which, however, makes their mention meaningless and inexplicable, and would also require, if true, not "evening and morning," but "night and day." The only place in Scripture where evening and morning appear to be spoken of as making up the whole day is Dan. viii. 14, where, however, the reference is not to days simply, but to the daily sacrifice, which was offered every evening and morning. To say that sacrifice should be suspended for 2,300 "evening-mornings" was hence a natural expression for 2,300 days. But no such explanation manifestly can be given for the use of such a periphrasis here in Genesis. The main points to be observed, however, as decisive of the whole question, are (1) that the verb is invariably inserted *twice*—"there was evening, and there was morning; a second day," &c.; and (2) that this verb is the very same, and in precisely the same form (וַיְהִי) as is used throughout the chapter to describe the successive events of creation. "There was light" and "there was evening" are precisely parallel expressions; and just as the first requires us to regard the light as coming *after* the command which called it forth, so does the second require us to regard the evening as coming after the light, the morning after the evening, and the day therefore as not complete until both evening and morning had thus *succeeded* the creative acts previously described. Nothing but a nightly rest, then, bounded in this way by evening and morning, will satisfy the plain requirements of the language.

ing now are we to assign to these successive rests? That they are introduced merely as a sort of framework to the narrative, a necessary appendage to the six days' work, is most improbable. Rather may we expect to find them, like every other detail in the cosmogony, embodiments and visible manifestations of principles of Natural theology. Nor when we examine them carefully is there much difficulty in discerning what these underlying principles are, for the sake of which they are introduced. These rests express, in fact, the results now apparent in Nature of those principles of creation already considered—independence, government by law, gradual development, and subordination. Thus, first, of independence. The act of creation is an act done once for all; the creature once made, though still in a certain sense dependent, yet exists henceforth quite distinct from its Creator. But, secondly, mere existence is not all. Every creature has besides some work assigned to it, to ensure the performance of which a law has been imposed upon it, to be observed not now only, but always; to which also all its parts and faculties are exactly adapted. Creation,

then, once accomplished, the law once given, and the Creator not only may, but plainly must, so far as that item of His work is concerned, *rest.* As Ruler and Sustainer He doubtless works always, but as Creator—the only view of God here regarded—His work is of such a character that He works once only, and then rests. This is the fundamental idea to be set forth. Since now, thirdly, it is a principle of Divine action to create gradually, step by step, it follows at once that each of these steps of creation must be succeeded by a corresponding rest. To represent which idea adequately it was manifestly necessary that as there were six stages of progress, six days of work, so there should be also six pauses, six nights of rest. Since, lastly, it is the crowning principle of all to subordinate member to member in such a manner that to man shall be committed the dominion of the earth and all things in it, it follows that directly this system of organization is complete there succeeds not only the proper rest consequent upon the particular act of creation last accomplished, but also a final and lasting rest belonging to the whole—an idea

represented in the cosmogony by the sabbath, a day on which no work is done, because all is finished and complete. This seventh day is pronounced to be blessed and holy, because in it God rests from all His work. A most important point. For, observe, God does not rest because the day is holy, but the day is holy because in it God rests. It is the peculiar character of the rest that makes the day blessed. And what is the peculiarity of this rest? It is a rest, not only from work ended, as before, but from work perfected, from work *so* perfected as to need no further addition or interference from the worker's hand. Since, now, such perfect work belongs in native right to God only, and none else, so the rest which that perfection brings is also His peculiarly, and is hence fitly called holy and blessed,—holy and blessed just because it is Divine, the perfect rest resulting from perfect labour.

But the teaching does not stop here. It is not merely that men are to regard God's work as of this perfect character, both in its several parts and as a whole; they are in this not only

to learn, but to imitate. In condescension to man's weakness God represents His work of creation under the image of a week's labour. Man now is to rise to the likeness of his Creator, and make his real weeks' labours like the picture of his God's. He is not to be an idle occupier of the earth, but he is to 'work', to work 'six days', and so to work that in each recurring six days he may "do *all* that he has to do"; and then on the seventh day let him enjoy a hallowed blessed 'rest', a rest the more like God's, the more truly his work during the week has been after God's pattern, thorough, wise, and good. Here then we have the final reason why creation is described as a six-days' work. The adoption of some such representative term, to convey the doctrine intended as to the time of creation, was based, as we have seen, upon other grounds. But the insignificance of the time of creation might have been taught as well by the figure of any short period, by some indeed more forcibly than by that in fact adopted. This, therefore, does not fully account for the six days. When, however, we add to this that God designed to

teach men, by the account of His work and rest, how *they* were to work and rest; holding Himself up as a model, that they might spend their time as He spent His;—when we see this also, then the whole thing is clear. God knew that if man did thus labour as He would have him, six days of toil was as much as he could bear at once. That both toil and rest, then, might be sanctified, God would have both done, not only under His approval, but after His pattern, that so whether working or resting man might do all looking up to Him as his guide, his aim, his end. Man was to copy God; and that he might the better do so, God drew the pattern in such figures as, being themselves well adapted for the teaching intrinsically involved in them, had besides this further advantage, that they placed the desired imitation in the clearest and simplest light possible.

It would be interesting to pursue this subject into its farther and closely related stages of the Christian 'Lord's day' and the 'keeping of sabbath' yet in store for God's people hereafter; but to do this would be to wander from the cosmogony. We return therefore once more to the ques-

tion, What has science to say to this doctrine of God's rest?

The fact of God being at the present time resting from creation, is one to which science abundantly testifies. Minutely as she may examine Nature, whether animate or inanimate, no trace of creation as a process now going on can she anywhere detect. Changes, transformations, developments, reproductions, there may be in abundance, but no creation. Creative force is not now in action. It can only be inferred from its results. No other token of its existence is perceptible. The Creator is resting. Nor does science stop here, but boldly comes forward with a reason for this inactivity. There is no need for creative power (she says), for all things in the universe are so constituted, so governed by law, so fitted into one another, that by mutual action and reaction the whole machinery of the world is kept in unceasing motion, (to all appearance) self-guided, self-adjusted, self-energised[1]. The wonderful spec-

[1] "There is no Thing produced, no event happening, in the known universe, which is not connected by an uniformity, or invariable sequence with some one or more of the phenomena which

tacle thus presented has afforded a pretext to some to deny that there is any Creator at all. The world exists and goes on without one,—why may it not always have done so? Neither the question thus put, nor the answer by which it must be met, are properly any part of demonstrative science, and need not therefore be here discussed. Two remarks only shall be made. First, in the analogical case of man's works the principle here contended for certainly does not hold good. A watch is a wonderful piece of mechanism, but it requires constantly winding up. Could man make a watch that should be ever winding itself up as fast as it ran down, would this be considered an article *less* evidently the result of skilled workmanship than an ordinary dial? Would it not rather be considered to involve proof of far greater and more perfect skill? Just so the universe, ever

preceded it.....These antecedent phenomena, again, were connected in a similar manner with some that preceded them; and so on, until we reach, as the ultimate step attainable by us, either the properties of some one primeval cause, or the conjunction of several. The whole of the phenomena of nature were therefore the necessary, or in other words, the unconditional consequences of some former collocation of the Permanent Causes." J. S. MILL, *Logic*, 7th ed. 1868. III. 5, § 7.

returning on and (apparently) sustaining itself, is intuitively felt to be a greater evidence of creative power and wisdom than it would have been if so constituted as perpetually to need its Creator's interfering hand to keep it in action. Secondly, had the case been indeed thus, and the world been less (apparently) self-reliant than it is, the doctrine of the cosmogony would have been proved false; for the rest into which God entered at the close of creation would have been shown to be not final, not lasting, not perfect. As it is, science in this very doctrine, which has been hailed by some as getting rid of the Creator altogether, has but borne a powerful, though unknowing, testimony to the Scriptural truth of the perfection of that creation which such have thought to ignore. The Creator has rested from His work and does rest, and His rest is not only the cessation from labour ended, but the satisfied beholding of a perfected design; a sabbatical rest, holy and blessed.

It is needless to summarize the results of this comparison in respect to principles. The concord of science and Scripture throughout, wherever they

come in contact, has been too self-evident to require further insisting on. We proceed, therefore, at once to our second question—

II. What are the facts in creation alleged in connection with these principles, and how do they agree with those discovered by Natural science?

These facts being for the most part simply the ordinary phenomena of Nature familiar to every one (pp. 27, 28), we cannot expect to find much to compare with science under this head, except in regard to two points.

(1) It is asserted in the cosmogony that the objects and phenomena which constitute the world of Nature made their appearance in a particular order. Is this order in accordance with what science has discovered from her researches into the past history of the world, or would regard as probable from her knowledge of the relation in which the different members of the universe stand to each other?

(2) The history of Genesis separates these objects and phenomena into distinct groups, which are represented as arising from distinct and suc-

cessive creative impulses. Are these groups of such a character as to make the existence of a distinct impulse for each scientifically credible?

These are the two main inquiries now before us. The relation of the two to each other is so close that we shall best consider them together. The order of the cosmogony is not merely an order of appearances, but rather an order of impulses which gave rise to appearances. Each of these impulses may be regarded as equivalent to what would be called in scientific language the introduction of a new force or principle, which at its introduction would at once give rise to certain before unknown effects, yet whose action would by no means be limited to these immediate results, but which would go on producing other and similar effects so long as it continued at work. That this is the view of the narrative of Genesis is easily seen. The Natural objects whose creation it describes are those which are familiar to every one. But the objects actually seen by men now are certainly not as a rule the very same as those originally created. The animals, for example, and plants, which men now see, are not the same in-

dividuals as those first created. What then does the narrative really teach about these individuals now present? It describes, not their own creation, but the creation of their progenitors. That is, it describes the introduction of such an impulse into the universe as not only then and there led to the 'bringing forth' of living beings, but which also ever after kept up this 'bringing forth', and would continue to do so as long as God's providence should allow it to work. The new step in creation marked by the appearance of each group of living beings was of such a character as to ensure, without fresh creative impulse, the continued production of similar results in time to come. So also doubtless are we to regard all the stages of the cosmogony. When, for example, it speaks of the creation of land and seas, it no more follows that these were the same land and seas with which we are now acquainted, than it follows that when birds are spoken of, these were the same birds which we now see in the heavens. Indeed, the changes which are known historically to have taken place in the limits of sea and land, assure us that this is not the case.

What we are to understand is that at a particular stage of creation an impulse was given, a force or principle introduced, which led to the appearance of land, and that to this same impulse, force, or principle, in its further working, is the existence of land ever since to be ascribed. In looking for scientific evidence confirmatory or otherwise of the order of creation given in Genesis, we have to be careful, then, of two things. (i) We have to seek, not for the occurrence of the same objects and phenomena as those now existing, but for their *like;* such, that is, as would naturally arise from the working of the same cause, it may be under very different circumstances. (ii) We have to seek, not for the greatest development of each class of objects or phenomena, but for the *first* development; since that is the true mark of the introduction of the cause. That the first development should be also the greatest has no probability in its favour, but rather the contrary. To suppose, as some have done, that the epoch of the first introduction of plants, for example, must have been marked by their occurrence in the greatest number, is as

unreasonable as to suppose that the epoch of the first appearance of land must have been marked by its appearance to the greatest extent. The analogy of the single pair, in the case of man, would rather lead us to suppose the beginning in each case to have been small and insignificant.

We now proceed to the examination of this order of impulses in detail.

1. The first action ascribed to God after the original creation of 'the heavens and the earth', is the 'hovering' of His Spirit 'upon the face of the waters'. As no special result is attributed to this 'hovering' in the narrative, it is probably to be regarded as a general diffused influence lasting throughout the whole period of creation, and enabling the earth to 'bring forth' at His commands, rather than as a particular creative impulse. The first impulse, then, which demands attention is that resulting in the creation of *light*. By this 'light' we are of course not to understand light in its technical scientific sense, as distinguished from heat, but rather in its ordinary popular sense as including heat; such light in fact as we meet with

in Nature in the light of the sun[1]. The creation of 'light' may be taken, therefore, as equivalent to what we should now call the creation of radiant force.

Now, what is the teaching of science on this point? It has shown us most abundantly that on such radiant force, imparted to the earth by the sun, and by the earth once more scattered into space, depends in the first place well-nigh the whole of the phenomena of meteorology. That it is the cause not only, as we readily perceive, of the temperature of the earth, but also of the moistness of the atmosphere, of winds, of clouds, of dew, of rain, of ocean currents—in a word, of every one of the elements which, variously combined and conditioned by the earth's external features, go to make up climate. Further, that on this climate, so produced, very many of these same external features themselves not a little depend; the action of rain and its consequent rivers, of winds, and ocean currents, being in particular largely instrumental in actually altering the surface of the earth.

[1] How closely the ideas of light and heat were united in the Hebrew mind is shown by the same word being used for both, with merely a slight difference in pronunciation, אוֹר and אוּר.

Once more, that this radiant force supplies the physical power needed for the life and growth of plants, and through them indirectly of animals also; so that without it there could exist no life upon the earth at all. Next, therefore, to the materials of which the earth is composed, there is no element in its constitution of such paramount and extensive importance as 'light'; while, from the relation in which it stands towards other parts of creation, it plainly must have preceded them in order, since without it they could not be. Before there could be expanse or clouds, plants or animals, there must be light. So science teaches, and so Scripture also lays down the order of creation; first, the materials; then, as the first step in developing and arranging, "Let there be light".

Whether by this creation of light we are to understand the creation of the actual force itself, or the creation of the particular condition of radiation (known technically as the *æther*, which is supposed to permeate all transparent space and substance) does not appear; but the latter seems the more probable view. In either case science would have no difficulty in recognising the change thus

described as well worthy to be assigned a distinct place by itself, as a unique and fundamental working-element in the phenomena of Nature.

It will be observed that of the source of this light the cosmogony says nothing. The difficulties which have been raised under this head will be considered when we come to speak of the creation of the luminaries on the fourth day. That the light came from an external source of some kind, and that the earth then also revolved upon its axis, appears from the alternation of light and darkness described in ver. 4, 5.

2. The next creative impulse recorded is that which resulted in the separation of the waters above from the waters below, and the interposition of an *expanse*. There has been much controversy as to what we are to understand by these 'waters above the expanse'. No one, however, who considers carefully the structure of the cosmogony can doubt that clouds are intended. The narrative embraces all prominent groups of natural objects, familiar to men; among these must surely be reckoned 'clouds'. Yet if the 'waters above the

expanse' be not the clouds, where are these latter so much as alluded to? Nor is this all; a comparison of other parts of Scripture shows that it was a usual thing to speak of the clouds as 'waters' (see 2 Sam. xxii. 12; Ps. civ. 3; Job xxvi. 8, xxxvii. 11, xxxviii. 37). While, still more conclusively, in Prov. viii. 22—31, where the creation of the world is referred to, in speaking of the formation of the 'heavens' and the limit thus assigned to the abyss of waters, mention is made not as in Genesis of the 'waters above', but of 'the clouds above' (ver. 28). That the Jews, therefore, understood clouds by these 'waters' is clear. And if so, in this natural sense are we bound also to take them. The 'waters above' being clouds, then, it follows at once that the 'expanse' is the atmosphere, which does indeed divide these upper waters from the lower, in which appear the luminaries of heaven, and where also the birds fly. All ideas of an upper sphere of water encircling the entire earth, and bounded internally by a solid vault or firmament, however such ideas may have been at certain times associated with the language of Genesis, must be dismissed as altogether alien to

its real meaning, being neither taught by it, nor being indeed so consistent with it as the simpler view of clouds and an atmosphere. The creation of these, then, is the result of the second Divine impulse.

Now inasmuch as the production of clouds at the present time is due, as already noted, to the action of radiant force, the only new point here is the *atmosphere.* Without an atmosphere radiant force would be powerless to cause clouds to separate from the waters below. The only effect it could have would be to wrap these round with a dense clothing of vapour (comp. Job xxxviii. 9). But *with* an atmosphere the formation of clouds must follow at once. Scientifically regarded, then, the work of the second day resolves itself into the creation of the atmosphere. And here science is compelled to halt, for of the origin of the earth's atmosphere she can tell us nothing. Of its importance there is no doubt, nor that it must have preceded both plants and animals in order of development, since it is independent of these and yet essential to their life. So far, therefore, science confirms the order in which Genesis places this

part of creation. But how there came to be an atmosphere—this is a problem altogether unsolved. The statement of the cosmogony, therefore, that the formation of the atmosphere and consequent production of clouds was the result of a special creative impulse, and so involved the introduction of some new principle or force, must be left untested, as science has no information as yet to give upon the subject.

3. The work of the third day involved two creative impulses, (1) that which caused *dry land* to appear; and (2) that which caused *herbs and trees* to sprout forth from the land. What has science to say to these?

(1) The formation of *land.* As already remarked radiant force has, partly directly, and partly indirectly through the agency of rain, &c., a very important part in determining the relations of sea and land at the present time. Its part, however, so far as we can at present trace it, is exclusively one of destruction—the disintegration and levelling-down of the land, not the building it up. If radiant and atmospheric influences were the

only agencies at work, there is every reason to believe that in time they would reduce the globe to one vast unbounded sea. There is clearly some other and counteracting agency at work as well, some other cause which occasions land to rise out of the water, and so maintains the balance. Whatever this cause may be, it is certainly different from any of those yet enumerated. It produces altogether different results, and it works, not from without, but from within. Various theories are and have been current as to what this cause of terrestrial upheaval is, some identifying it with volcanic action, some regarding it as distinct. In either case, however, the problem is equally an unsolved one at the present time. What forces are involved in this upheaving action, or on what principles it depends, science has not yet determined. As before, therefore, the statement of Genesis that the first appearance of land was the result of a distinct creative impulse, must be left scientifically unchecked. So far as probabilities go, these are plainly in favour of the distinctness of this cause from the others formerly considered. While in regard to order, the creation of land *after*

that of light, atmosphere, and clouds, but *before* plants and animals, is plainly the most natural that can be conceived. The origin of land from the water is also in exact accordance with the discoveries of geology, which seem to point to water as the birth-place of nearly every known rock.

(2) The production of *plants.* Terrestrial vegetation at the present time depends for its continuance upon (i) soil, whence is obtained a very important part of the food of plants, and which also furnishes them with a basis and support for growth; (ii) air, whence a still more important and principal part of their food is derived; (iii) water, which maintains the soil and air in a fit condition for these ends; (iv) light and heat, which supply the plants with those stores of force which they require to enable them to carry out their functions. These, it will be observed, are precisely the conditions which the narrative of Genesis represents as in existence when the fiat went forth, "Let the land sprout forth sprouts". Is, then, the concurrence of these four conditions sufficient to account for the production of vegetation? There

are some scientific men at the present day who seem disposed to think that we have in these the whole account of the causes of vegetable life. But the general opinion lies strongly the other way, recognising over and above all these a distinct principle—vital force—which acts as the enabling, determining, directing cause of vegetable life. This vital force is held to be of a totally different order to physical forces (such as heat, electricity, gravitation, &c.), to be governed by totally different laws, in fact to have nothing whatever in common with them[1]. If this be so, then it is plain that

[1] "Living matter is not a machine, nor does it act upon the principles of a machine, nor is force conditioned in it as it is in a machine, nor have the movements occurring in it been explained by physics, or the changes which take place in its composition by chemistry. The phenomena occurring in living matter are peculiar, differing from any other known phenomena, and therefore, until we can explain them they may well be distinguished by the term *vital*." —PROF. L. BEALE, note appended to Croonian Lecture 1865. *Royal Soc. Proceedings*, XIV. p. 232.

"Solar light and heat.....supply to each germ the whole power by which it builds itself up, at the expense of the materials it draws from the Inorganic Universe, into the complete organism; while the mode in which that power is exerted.....depends upon the 'germinal capacity' or directive agency inherent in each particular germ." W. B. CARPENTER, On the application of the principle of 'Conservation of Force' to Physiology. *Quart. Journ. Science*, April 1864.

we have in this vital force precisely the new creative impulse described in Genesis. Everything else necessary to vegetation was already there—soil, air, water, heat and light; only vital force was needed. The impulse was given—vital force was added; and forthwith 'the land brought forth sprouts'. So long as the difference of opinion just noticed exists among scientific men, it is of course impossible to allege this doctrine of vital force as a certain confirmation of the teaching of the cosmogony. It is, however (regarded from a purely scientific view), at all events an extremely probable one. The accordance between science and Scripture as to the stage of development at which plants first arose is too clear to need insisting on.

But the Biblical account of the creation of plants comes in contact with scientific speculation in yet another point. It is believed by many eminent Naturalists that the plants now clothing the earth, as also those whose existence in past ages geology discloses to us, are one and all the diversified lineal descendants of a very few original types, if indeed they may not be all traced back

to one. To a far greater extent than with the doctrine of vital force just noticed, is this development-theory a moot point in the scientific world at present, being eagerly contested by advocates on both sides. Its relation to the statements of Genesis is hence not as yet a matter of pressing moment. We might fairly leave the question of agreement or disagreement with Scripture until such time as men of science should have become pretty well agreed to accept the theory as true. Its popular interest and growing influence, however, are such, that it seems better to adopt a different course.

In the first place, then, be it observed that this theory does not in the slightest degree affect the fundamental point, of vitality being the result of a distinct creative impulse. The belief that it was so is expressed by Mr Darwin, the great propounder of the theory in its present form, as clearly and unhesitatingly as by any of his antagonists[1]. The problem which this theory attempts to solve

[1] "There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one." DARWIN, *Origin of Species*, 4th edit. 1866, p. 577.

is not the ultimate source and cause of the life which animates, but merely the proximate source and cause of the diverse *forms* in which that life manifests itself. Mr Darwin supposes that life was introduced once for all in a few, or perhaps one original form, from which all others are descended[1]. Those who reject his view suppose there to have been not only a far larger number of forms coming into being independently of each other, but also a considerable number of distinct epochs when life was freshly introduced. How do these rival views agree with the statements of Genesis?

With respect to the number of forms originally created, the narrative by distinguishing 'herbs' and 'trees', and speaking of each of these as produced 'after their kind', seems clearly to point to a diversified vegetation as the immediate result of the Divine command. The extreme view, therefore, to

[1] "Authors of the highest eminence seem to be fully satisfied with the view that each species has been independently created. To my mind it accords better with what we know of the laws impressed on matter by the Creator, that the production and extinction of the past and present inhabitants of the world should have been due to secondary causes, like those determining the birth and death of the individual." DARWIN, *Origin of Species*, 4th edit. 1866, p. 576.

which Mr Darwin says that 'analogy' (not scientific evidence) might perhaps lead him, is apparently contrary to the teaching of Genesis. The extent of the variety implied by 'after their kind' is plainly however quite undetermined. A few well-marked forms would be quite enough to satisfy the language employed, and more therefore cannot be insisted on.

On the other hand, with respect to the number of initial epochs, it is clear that the Darwinian theory accords far better with Scripture, than does the opposite view. Genesis speaks of but *one* creation of plants, after which reproduction by 'seed' is the order of existence; and so precisely Darwinism also teaches. It may of course be that the creative impulse was of such a nature as not only at the time, but also afterwards, to cause the direct production of new forms. But this is manifestly a far less simple and natural view than that which regards the original generation of new forms as taking place once only, at the time when the necessary impulse was first given, and all other forms as lineal descendants of these.

So far, then, from Scripture having anything to

fear from the Darwinian theory, it appears that if carried out to that extent which its author thinks scientific evidence warrants, it accords with the cosmogony exceedingly well; harmonising with it, indeed, in one important respect, even better than does the ordinary view.

4. The fourth day's work consisted in the creation of *luminaries*. That it is exclusively in respect to their light-giving functions that the heavenly bodies are here regarded, has been already pointed out (pp. 29, 30). To this light-giving quality, therefore, must the creative impulse here described be strictly limited. The heavenly bodies themselves may have existed before, or they may have but now come into being;—of this the narrative here tells us nothing. All that it asserts is, that they now first began to shine as luminaries. The most probable view is that their original creation is described in ver. 1, under the general term 'heavens', and that the work of the fourth day was simply the causing them to assume the new office of light-bearers. But the evidence is hardly conclusive enough to warrant our regarding this as

certain. Suffice it to know that in our scientific examination of this part of the cosmogony we have to do only with the creation of the heavenly bodies as luminaries, and not as material members of the universe.

The distinction here drawn is one quite harmonious with science. Regarded merely as centre of the solar system, a body constituted like the moon, or earth, would (mass and distance being supposed equal) be as efficient as our present sun; yet would it, in the absence of light shed upon it from without, be no light-bearer. The sun also, then, may have been thus dark in some former stage of its existence, and yet the structure and motions of the solar system been the same as at present. Nor is this a mere gratuitous hypothesis. Astronomical researches have demonstrated the existence of a companion star to Sirius (the brightest known star), which though of mass sufficient to influence perceptibly its motion at the enormous distance from Sirius of, it is believed, at least 5000 millions of miles, yet is with difficulty discerned as a visible object even with powerful telescopes[1]. Such a

[1] See Sir J. Herschel's *Familiar Lectures on Scientific Subjects*, 1867, pp. 209—213.

body may be called, in comparison with Sirius, a dark sun. While that changes in luminosity do in fact take place in heavenly bodies, is abundantly evidenced by the phenomena observed in 1866 of the star τ Coronæ Borealis, whose sudden, and in this case transient, increase in splendour was proved to have arisen from physical changes internal to itself[1]. That the sun, therefore, should have been at one stage of its existence a dark body, and afterwards have become a luminary, is an idea as credible scientifically, as it is probable exegetically.

But the cosmogony speaks not only of the sun, but of the moon and stars. Now the moon and planets shining, as they do, by virtue of the light of the sun, and not of themselves, their becoming luminaries would follow as a matter of course directly *it* became so. The fixed stars, so far as we at present know them, appear to be constituted physically much after the same manner as the sun. Their luminosity, therefore, arises probably from the same cause. The grouping together, then, of all the heavenly bodies, as becoming luminaries from the action of one creative impulse, is in entire

[1] See Rev. C. Pritchard's article in *Good Words*, *April*, 1867.

accordance with the scientific view of their relations to one another.

When we ask further, What is this common cause to which the luminosity of the sun and stars is to be ascribed? we are met with diverse and conflicting answers. Recent discoveries in regard to the constitution of the sun have drawn attention largely to the problem, but they have as yet done no more than render its solution a matter of plausible hope. The views advanced so far are confessedly mere theories, possible solutions which we have no ground for receiving as true beyond their intrinsic adequacy. Nor on this point even are scientific men by any means agreed, a solution regarded as sufficient by some, being rejected by others as altogether insufficient. This much only, then, can be affirmed at present:—the problem of the cause of the sun's luminosity is not only an unsolved one, but no known cause which speculation has thus far imagined for it has been admitted as adequate by scientific men as a whole. The statement of Genesis, which ascribes the creation of luminaries to a new and distinct impulse, is hence tentatively confirmed. The ultimate relation of

science and Scripture on this head must be left for time and further researches to determine.

With respect to the order in which this creation of luminaries stands, one point only demands attention. Of the existence of such lights prior to the history of man, we have, and can have, no trace whatever. Indirectly, from the existence of plants and animals, we may infer with confidence the existence also of light and heat in long anterior ages. But whether these came to the earth from the same sources whence we now derive them, we have no means of knowing. Which of course is precisely the point we must ascertain, if the accuracy of the cosmogony here is to be really tested. One objection in regard to order, however, is so commonly urged that it cannot be passed over without remark. The narrative separates the creation of luminaries from the creation of light, interposing two entire days' work between them. It is objected that this precedence of light to the sources of light is incredible. Now if science were so intimately acquainted with the relation of the sun to the light which it emits as to explain precisely how and why it is a source of light, there might be some show of plausibility

in this objection. But this we have seen is not the case. What right, then, have we to object to the statement of Genesis? We cannot understand, it is said, any other way in which light could have shone, except from a central luminary like the sun. True; but neither can we understand the way in which light could have shone from the sun; for the phenomenon, common as it is, is one which science has hitherto failed to explain. It is hard to see how, under such circumstances, a mere difficulty of understanding the *way* in which it was done can be made an objection to the belief in a different mode of illumination from that we now enjoy. The difficulty is plainly not one of the reason, but of the imagination. But this ignorance as to the source of the sun's light is not all; we are equally in the dark as to what becomes of that light when once shed forth. It is calculated that less than $\frac{1}{2,000,000,000}$ th part of it reaches the earth. Other minute fractional portions go to the planets. What becomes of the rest? Even these parts which are stayed by the planets are retained only for a little while, and are then shed forth again, more or less modified, into space. Where does it all go to?

Throughout all space, so far as we know it, and certainly to enormous distances, there is no obstacle to the passage of this light; it is dispersing freely in all directions. The light from the stars is being scattered in like manner. Whither does it all tend? To suppose that it ceases to be, is to contravene the fundamental scientific axiom of the indestructibility of force. To suppose that it is at last stayed in its outward course, is to assume the existence of a stupendous absorbent envelope enclosing the entire universe. And even then, what becomes of it? It is not sent back, at all events in anything like the same form that it goes out; for if it were, then we ought to be as cognisant of this return as we are of the original scattering. Is it retained then, and stored up for future use? An assumption as gigantic as the former one. In the face of such a mystery, baffling utterly both reason and imagination, yet whose existence as a fact is beyond dispute, it ill becomes the man of science to cavil at the infinitely lesser and merely imaginative difficulty of the shining of light independently of our present luminaries.

5. The account of the fifth day's work comprises apparently two simultaneous impulses, that which peopled the *waters*, and that which peopled the *air*. It is, however, not improbable that these two results really sprang from the same impulse exerted in different spheres; since both in the command, and in the account of the result, inhabitants of waters and air are ranged together in a close and intimate manner. The current idea, however, that the birds also were produced from the water (suggested by the A. V. rendering), finds no countenance in the text.

Here, then, we have the first introduction of animal life. It is unnecessary to discuss this fully, since what was said above in regard to vegetable life (pp. 106—108) applies *mutatis mutandis* here also. Animal life is generally recognised as involving a totally distinct principle from physical force of any kind, distinct also equally from vegetable; though some, as before, hold a contrary opinion. Similarly, the remarks then made in respect to Darwinism (pp. 108—112) apply equally here also. One point only requires special attention,—the order in which this first introduction of animals is

placed in the cosmogony. It is placed later on than the creation of plants. And here it is plain that science is perfectly agreed. The food of animals is derived entirely from the vegetable world; by some directly, by others (the carnivora) indirectly, through the consumption of those who have fed upon the plants. The power, from the simpler substances, as carbonic acid, water, and ammonia, to build up the more complex organic bodies; the power to render latent in such compounds the heat-force derived from the sun; these alike appear to be peculiar properties of the plant. The animal can only break up and take down, more or less completely, that which the plant has put together; can only let out and use the force which the plant has stored up. In the order of creation, then, the plant must have come before the animal, since without it the animal could not exist.

6. The concluding day of creation involved two impulses, (1) that which resulted in the formation of *land animals;* (2) that which resulted in the introduction of *man;* this last being an impulse not only distinct in nature, and separate in time,

but also plainly, from the terms of the solemn prelude with which it is introduced, of an altogether higher order than any of those which had gone before.

In describing the origin of the animal world, then, the cosmogony proceeds upon a different plan from that followed in regard to vegetation. The creation of plants is represented as the result of a single impulse occupying part only of the third day. The creation of animals is the result of three or perhaps four (see p. 119) impulses, and occupies the whole of the fifth and sixth days. It is clear that the range in development and organization of animals is considered to be far greater than that of plants. It is clear also that this greater range is ascribed to the successive introduction of diverse impulses in an ascending ratio of character.

On the first of these points science is entirely at one with Genesis. The difference between the lowest algæ and the highest exogen, great as it is, would be universally admitted to be far less, both in amount and importance, than that between the lowest protozoa and the highest mammal. Nor is it less self-evident that whereas the extremest differ-

ence in plants is merely one of simple or complicated organization, and the number of essentially diverse typical groups under which they can be classed is very small; in animals, on the contrary, the extreme difference involves, besides organization, various mental qualities, as will, intelligence, reason; while the number of fundamental types is larger, and the types themselves more widely separated. So far, then, scientific views of the animal world accord with the implied teaching of Genesis.

But what has science to say to the doctrine of distinct successive impulses, as occasioning this wider range and greater diversity? As on all other of these questions in regard to the origin and development of life, the answer is necessarily doubtful, owing to the diverse opinions entertained upon the subject. Those who advocate the belief in many epochs of creation, each introducing fresh species, would recognise in these epochs a confirmation of the successive impulses of the cosmogony. Albeit it must be confessed that their epochs are far more numerous than those here described. On the other hand, the Darwinian who believes in but one epoch of original generation, would feel a dif-

ficulty in accepting these successive impulses at all. The statements of Genesis appear really, however, to harmonise better with this latter hypothesis than with the former, provided it be modified in certain unessential particulars. It is commonly assumed that the few primitive forms from which the animal world is (on this view) supposed to have sprung, were introduced at one time. But this is plainly quite unnecessary to the consistency of the theory. They might as naturally have been introduced at different times. In which case they would correspond, more or less, to the successive creative impulses of Genesis. Or there is another way of taking it:—The narrative of Genesis does not say how far the results of the later impulses described were due to them alone, or how far to the preparatory and assisting influences of impulses that had gone before. That both elements are recognised as co-working throughout the whole of creation has been shewn above (pp. 41—43). Hence in regard to the later stages of animal life two views are tenable, (1) that they started from the same basis as the earliest stage, viz. inorganic materials and powers; or (2) that they started from the fur-

thest points of development which the whole series of preceding impulses had as yet produced; the new impulse being added to enable a still higher point to be reached, which the former ones alone could not have attained to. For example, the creation of man may have been either (1) an entirely *de novo* fashioning of dead matter into a living frame, to which were given at once all the qualities and attributes of man; or (2) it may have been merely the super-adding of the distinctive features of man's nature upon those of the highest and most similar creature then existing. On the first view, the part taken by prior creative impulses is placed at a minimum; on the second, at a maximum. Yet inasmuch as this part, as well as the proper working of a new and distinct impulse, is recognised by each, either view is consistent with the statement of Genesis, which simply points to a twofold causation, without defining in any way the limits or manner of co-working of old and new. Neither view is endorsed, either is allowed. Now this second view is plainly one which harmonises with Darwinism exceedingly well, allowing to the full the lineal sequence of organic development

from primitive types, but adding to this the further influence of two new impulses, producing sudden strides of progress which mere development by variation could never have effected.

With respect to the latter of these two impulses, that which led to the introduction of *man*, the recognition of such a stride of progress is almost as much a part of the scientific creed as of the Scriptural. Regarded merely in respect to physical structure and organization, the difference between man and the highest inferior mammal is comparatively small; the transition from one to the other would be (on Darwinian views) comparatively easy. But regarded in respect to mental powers and spiritual faculties, the difference is simply enormous. To pass from the most intelligent mammal to man is *mentally* to take a far greater stride, than it were *structurally* to pass from the lowest vertebrate to the highest. It is not merely a higher development of faculties common to both, but the introduction of altogether new faculties of a higher order. It may be objected that in the most degraded savages this mental difference between brute and man becomes

practically very insignificant. True; and with equal justice might it be urged that the mental difference between a babe and a puppy is extremely small. In each case the question is not one between powers actually in use, but between faculties capable of being used. The babe can become a speaking, reasoning, moral, God-aspiring being, the puppy cannot;—that is the true difference. To what extent the babe actually does become such may depend upon circumstances, but the faculties are there in any case. In the puppy they are simply absent, hopelessly absent, let circumstances be as they will. Just so with the savage and the monkey. Experience has amply proved that the most degraded savages have in no way lost, however much they may have enfeebled, the faculties proper to mankind. They are capable of improvement, of education; and, given the circumstances favourable, there is no domain of human attainments which they have not shewn themselves capable of entering upon. Can the like, or anything ever so distantly approaching the like, be said of any monkeys? Until it can, the mental chasm between these and men remains clearly as

great as ever, even when the most degraded specimens of the latter are selected for comparison. In presenting, then, the transition between animals and man (however that transition was accomplished) as the special work of a new creative impulse, different, and higher in order, to any that had gone before, the cosmogony does no more than adequately account for phenomena which science cannot but recognise both as true, and also as most easily explicable in some such way as that here set forth.

With respect to the earlier impulse, that which led to the introduction of *land-animals,* a similar accordance of science cannot be so easily perceived. That as a whole the animals of the land offer examples of higher organization and greater intelligence than those of the water or air, none will dispute. But there does not seem to be any special characteristic distinguishing the two groups, which can be regarded as equivalent scientifically to this new impulse. One possible solution of this difficulty may however be mentioned, which it must be left for time to decide the merits of. The later impulses of creation cannot have been without in-

fluence upon the results proper to the earlier ones. The creation of the atmosphere, for example, must have considerably modified the effects of the pre-existing light; both of which would again be still further changed by the introduction of luminaries. The later impulses thus not only produced the results directly assigned to themselves (*e.g.* the separation of the waters, the marking seasons, &c.), but also introduced alterations in what had gone before. Yet are only the direct results of each impulse mentioned in the narrative, albeit the phenomena resulting from the preceding ones are known to us at the present time only as modified by those which followed. May not something of the same kind be true of the successive impulses concerned in the production of animal life? The waters and the air were already peopled with various creatures. A new impulse was given whose special direct result was to occasion the peopling of the land. May it not also have had a modifying influence upon some of those who yet remained inhabitants of the waters and air? Of course this hypothesis assumes as its basis the second view of these impulses of creation stated above (pp. 123, 124).

Supposing, however, this view to be the true one, and supposing such a modification as that just mentioned to have in fact taken place, and our difficulty is at an end. The most characteristic animals of the land are plainly the vertebrates. Between these and the invertebrates is the greatest structural and physiological break in the animal world. The transition from invertebrates to vertebrates would answer, therefore, very naturally to the earlier creative impulse of the sixth day; while man also being a vertebrate, the propriety of including his creation in the same day's work is manifest. But then, vertebrates are found also inhabiting the waters and the air;—this is the difficulty on the ordinary view. Let it, however, be admitted that the impulse was one given to existing forms of life, and that it was given not to one form or in one direction only, but to several forms and so in several directions, and all is clear. The analogies presented by the highest members of the invertebrates at the present time suggest strongly that if transition ever did take place between such as these and the vertebrates, it was as likely to take place from several starting points, and in

several directions, as one. And if so, that the natural result must have been not merely a peopling of the land, but modifications also in many of the dwellers in sea and air. This of course is mere speculation. It is advanced, therefore, not to confirm the narrative of Genesis (which it necessarily cannot do), but simply to shew that this apparent difficulty may after all be only due to our ignorance of the precise manner in which creation was accomplished.

Lastly, we have to consider the evidence afforded by geology as to the order of appearance of these groups—animals of the water and air, animals of the land, man—in the actual history of the earth. With regard to man this evidence is very clear, and strongly confirmatory of the statements of Genesis. Amid all the controversy in regard to man's antiquity now pending, on one point every geologist is agreed:—the traces of man's existence are strictly limited to the latest portions of the most recent group of strata. The whole of the Primary and Secondary formations, and by far the larger part of the Tertiary, must be assigned to periods antecedent to man's first ap-

pearance on the earth. No animal can be shewn to have made its appearance since man. Man, therefore, is universally regarded not only as a late, but as the very latest, member of creation; precisely the position assigned to him in the cosmogony.

With regard to the precedence of aquatic and winged creatures to those of the land, the evidence is less conclusive. The former are found indeed in much earlier strata than the latter, and so far geology accords exactly with Genesis. But the preservation of the remains of land-animals in the rocks has been of necessity so exceptional, that their absence from the majority of strata can never be taken as a proof that there were none such existing at the period when those strata were formed. Add to which that the strata now existing for inspection present mere isolated fragments of the earth's past history, and that of these fragments we have as yet but a very limited and imperfect knowledge; and it is clear that to lay any stress upon the coincidence between geology and Genesis on this point of order would be both unsafe and unjust. On the hypothesis that the work of the sixth day was the creation of verte-

brates, the confirmation of order would be worth a good deal more, since the precedence of invertebrates to vertebrates may be regarded as a fact almost as certain geologically as the late introduction of man. It will be observed that on this latter view a large proportion of the Primary formations, as well as all the Secondary and Tertiary, would be assigned to the sixth day of creation. The enormous extension which this would require in our notion of the time creation has occupied may seem startling; but it is no more than many advanced thinkers are disposed to claim on purely scientific grounds[1].

The comparison in regard to facts now com-

[1] "The whole history of the world, as at present known, although of a length quite incomprehensible by us, will hereafter be recognised as a mere fragment of time, compared with the ages which have elapsed since the first creature, the progenitor of innumerable extinct and living descendants, was created." DARWIN, *Origin of Species*, 4th edit. 1866, p. 575.

"As we increase our knowledge of the inexhaustible variety displayed in living nature, and admire the infinite wisdom and power which it displays, our admiration is multiplied by the reflection, that it is only the last of a great series of pre-existing creations, of which we cannot estimate the number or limit in times past." LYELL, *Elements of Geology*, 6th edit. 1865, p. 772.

pleted has led to much the same result as the former comparison in regard to principles. As before there have been found several points in which science is not in a position to check the narrative of Genesis at all, from their lying beyond the limits of her knowledge. In those instances where the contrary is the case, and science is entitled to speak with authority, the most complete agreement has ever been found to prevail. The remaining instances are ones in which there is some element of doubt, either from the scientific bearing of the statements of the cosmogony being uncertain (as, from its designedly non-scientific character, might naturally often be expected), or more frequently from men of science being not as yet agreed as to the true interpretation to be assigned to Natural phenomena. In all these cases, however, the ultimate agreement of science with Scripture has been shewn to be not only possible, but nearly always probable also. More than this could hardly under the circumstances have been expected.

To dwell at length upon the conclusion to be deduced from this two-fold comparison, as to the

Divine origin of this wonderful record of the world's creation, is quite unnecessary. That such a narrative, so pregnant with the deepest truths both of Theology and Science, could have been the result of the mere fancy of unscientific men in early times—this is surely a proposition far more incredible, an explanation of phenomena far more improbable, than the ascription of the whole to direct revelation from the Creator Himself. The challenge to scientific scrutiny has ended in the triumphant vindication of the cosmogony as the work of God, and not man. But it has done more than this. It has shewn, besides, what is the true relation which subsists between this Divine record and human science, and which will ever continue to subsist however far that science may extend its researches.

In its record of Natural facts, there are already items in which the cosmogony, while confirmed, is also superseded. The outline of Genesis has given place to the detailed knowledge of science. It is probable that as science progresses other items will in like manner be superseded, possibly in the end all may be. But what then?

To teach facts of Nature was not the main design of the cosmogony, but to teach Natural theology. And this we have seen science cannot teach, not because her researches have not gone far enough, but because such teaching is altogether beyond her domain. Those fundamental principles of Natural theology which the cosmogony sets forth so simply and succinctly, yet withal so profoundly and comprehensively, as embodied in the work of creation,—these principles science can indeed illustrate abundantly in their lower phenomenal aspects, but she could never have discerned them. Their truth in relation to Nature she can testify to in the clearest and most authoritative manner. But as the doctrines take a higher flight, and rising from Nature soar ever nearer and nearer to Nature's God, the testimony of science becomes meagre, her voice falters, grows indistinct, and soon is altogether silent. She is of the earth, earthy; and no effort can make her rise to the heavenly. Left to herself, she is like those ancient miners so eloquently described in the book of Job (ch. xxviii.). She has found indeed the source of silver, the place of fine gold; has drawn forth iron out of the dust, and melted brass out of the

stone. She has put an end to darkness in her deep searchings of all hidden things. Away from all common paths, by ways unknown, in depths profound, she has carried on her course, turning up the earth and all earthly things as it were with fire. In her researches she has found all manner of precious gems, and won unmeasured riches of material wealth. Surpassing in keenness the eye of eagles, in strength the pride of lions, she has gone down even to the roots of mountains, has hewn paths through the solid rocks, has stayed and controlled the very springs, has brought forth the most secret things to light. It is her pride and glory thus to have done. Yet is the great treasure of all beyond her reach. What means this world of matter that she has investigated? whence came it? whither goes it? This is the true wisdom, beside which all earthly spoils are valueless. But where shall she find it? How shall she attain to real understanding? She appeals to Nature, but there is no answer. Yet is it this which is of all things most to be desired. All the rich fruits of her labours, the material wealth, the brilliant jewels, cannot equal this. Her search with all its glories has been in vain; the highest

wisdom is still concealed from her eyes. Only in death and destruction is there a whisper of another world whence this wisdom may come—they have heard the sound thereof with their ears. Into that other world science cannot penetrate. But out of it comes a voice, the voice of God. The mystery of the universe is no mystery to Him, for all Nature is the work of His hands, the material expression of His Being. The wisdom for which man has sought in vain is nothing else than the knowledge of God. Nature has a testimony to its Creator, if man could but discern it. But he cannot. And so, when the marvels of creation were complete, God added to these the further marvel of a revelation of Himself, His greatness and His character; and stooping to man declared, "Behold, the fear of the Lord is wisdom, and to depart from evil is understanding." The cosmogony of Genesis, standing as it does at the very head of Scripture, is the first utterance, the first syllable, as it were, of this great message, beginning as was fit with the revelation of that part of hidden wisdom which lay in "the heavens and the earth in their creation."

APPENDIX I.

Job xxxvii. 18. "Hast thou with him spread out the sky, *which is* strong, *and* as a molten looking-glass?"

This verse has been largely used in proof of the assertion that the Hebrews regarded the sky as a solid vault. The usual answer to such an argument has been that the language is poetical metaphor, and ought not therefore to be taken in a literal sense. Sufficient as this answer is, it is well to note further that the A. V. rendering of the verse is more than doubtful, the original being capable of another translation, far more probable in itself, which entirely cuts away the ground of the objection.

(1) The word here rendered 'sky' is not the רָקִיעַ of Genesis, nor yet the ordinary word for 'heavens' (שָׁמַיִם), but שְׁחָקִים. This word is regularly used for 'clouds' in the book of Job (xxxvi. 28, xxxvii. 21, xxxviii. 37), as also in other parts of Scripture (Is. xlv. 8; Prov. iii. 20; Ps. lxxvii. 17, lxxviii. 23); though at times employed to denote the heavens generally (Deut. xxxiii. 26; Ps. xviii. 11, lxxxix. 6). The significance of the word, however,—'that which is thin, fine, small' (hence used also of 'dust,' Is. xl. 15)—leaves no doubt that it is everywhere the 'clouds,' and not the open 'ex-

panse' of heaven that is intended. The question of Elihu refers, therefore, not to the blue vault of heaven, but to the spreading out of *clouds*. It is these 'clouds' which he denominates 'strong' or 'mighty' (חֲזָקִים, see Job v. 15).

(2) The word translated 'looking-glass' (רְאִי) is found nowhere else in Scripture with this meaning. It occurs, however (רְאִי), in the sense of 'vision' (Gen. xvi. 13, 14), 'appearance' (1 Sam. xvi. 12), 'sight' (Job xxxiii. 21), and 'spectacle' (Nah. iii. 6); either of which is hence a more probable rendering than 'mirror'.

(3) The word rendered 'molten' (מוּצָק) elsewhere in Job denotes 'firmness,' especially such firmness as is the result of pressure, frost, or some other cause which would make that firm which was not so ordinarily. Thus it is used to describe the cleaving together of loose dust, produced by rain (xxxviii. 38), the confinement and hardening of water by frost (xxxvii. 10), the extraordinary texture of the flesh of leviathan (xli. 23, 24). It is also used of firmness generally (xi. 15), and of straitness (xxxvi. 16).

The verse might therefore be well translated, "Dost thou with Him spread out the mighty clouds as the appearance of firmness?"

The whole of this part of Elihu's speech (xxxvi. 27—xxxvii. 22) is concerned with God's wonderful dealings in the natural world in sending rain, clouds, sunshine, lightning, thunder, frost, winds, and all the varieties of weather occasioned by these; as a type of His equally

varied and mysterious dealings in providence with men. In such a connection what could be more natural than to refer to that wonderful spreading out of mighty clouds, which gave to things by nature the very thinnest, weakest, most proverbially transient, the appearance of firmness and strength? Could Job understand such mysteries as these? How then should he presume to be the judge of that equally mysterious appearance of God's dealings towards himself?

Anyone who attentively considers the whole passage will see, we think, that the meaning thus given to Elihu's question is much more suitable to the occasion and context than that assigned in the A. V.; while the scientific objection brought against the latter is altogether done away with.

APPENDIX II.

The following is a summary of the cosmogonies of other nations which present more or less of similarity to that preserved in the Scriptures[1].

1. The *Phœnician*, recorded by Eusebius, from Sanchuniathan.

The beginning of all things was a dark windy chaos. Upon this chaos the Spirit acted; and there arose, by union of the two, the original matter of creation. At

[1] The authorities referred to for information in regard to these heathen cosmogonies, are the commentaries on Genesis of Tuch, Knobel, Delitzsch, and Kalisch, and the Bampton Lectures of Professor Rawlinson.

first this appeared as a sort of watery slime, which contained the germs of all things. Out of this sprang the visible heavens in the form of an egg, whence sun, moon and stars began to shine. By the heating action of the sun upon the sea and earth there arose winds, clouds and rain. These producing thunder, awoke thereby the living beings out of their slumber, and so the world was peopled with animals and men. (See Tuch and Knobel.)

2. The *Egyptian*, handed down by Diodorus Siculus.

At first there was no distinction of heaven and earth, but only a chaos. But the air began to move, and the elements to separate; the fiery parts ascending to the higher regions, the watery and slimy sinking below. By still further separation sea and land were formed. The sun's rays shining on the earth caused it to bring forth creatures of all kinds to inhabit the air, the land, and the sea. (See Tuch and Knobel.)

Egyptian mythology, in describing the relation and origin of Athor (night), Phtha (breath or spirit), Neitha (undeveloped matter), and Phanes (first-born light), agrees still more closely with the Phœnician cosmogony. (See Tuch.)

3. The *Babylonian*, recorded by Syncellus and Eusebius, from Berosus.

The world was at first a dark fluid mass, inhabited by strange monsters, and ruled over by the sea. Belus cut the sea in two, making of the one half earth, and of the other half heaven; whereupon the monsters, not being able to endure air and light, perished. Then Belus, in order to people the earth, mingled his blood

with the dust, and so formed men, who were thus partakers of the Divine wisdom. He also made animals, and the various heavenly bodies. (See Rawlinson's *Bampton Lect.*, pp. 46—48.)

4. The *Persian*, contained in the Zend-Avesta.

Out of the dark universal primitive Being there arose, by the creating Word, Ormuzd the God of light and goodness, and Ahriman the God of evil and darkness. Ormuzd was the creator, and fashioned the world in six successive periods of 1000 years each. In the first period light was formed, and light-bearers; in the second period water, which covered the earth, and driven by the wind formed clouds; in the third period, the land was formed, and the mountains; in the fourth period, trees; in the fifth, animals; in the sixth, men. After each creative period a festival was held by Ormuzd and the heavenly powers. (See Tuch, Knobel and Delitzsch.)

5. The *Indian*, contained in the Vedas and book of Manu. The cosmogony here assumes various forms.

(*a*) At first all was dark, chaotic, indistinguishable. But the Eternal One thought, 'I will create worlds,' and thereupon water came into existence, in which was the germ of all life. Light arose, and the water developed into a brilliant egg, in which Brahman (the creator) created himself, and abode for 360 days, or 4320,000,000 years. At the end of this period he split the egg in two, and out of the halves made heaven and earth. The first-born, water, is called Nara (Spirit of God'), and this being the sphere of his first movements, Brahman is hence styled Narayana, 'moving on the waters.'

(*b*) At first Brahman was enveloped in a hovering formless mist, in which however Being was mirrored. The darkness was parted, and love arose as the productive creative power.

(*c*) God created by command, the creative Word being in fact a co-ordinate power with Brahman, born in the midst of the sea, penetrating all things, and throned with him above heaven and earth. (See Tuch and Kalisch.)

6. The *Grecian*, contained in Hesiod's Theogony.

The beginning of all things was chaos; then arose the earth, the abyss, and love. Out of chaos sprang night and day; out of earth sprang heaven. Then the mountains and sea were produced. After this arose herbage and rivers. Then the sun and moon received their birth, with the stars.

A similar account is given by Aristophanes, who also brings in the idea of the world-egg, so prevalent in these cosmogonies.

7. The *Latin*, contained in Ovid's Metamorphoses.

Originally all Nature was in a state of chaos, without form or distinction of parts, neither earth nor heaven, but one dark watery abyss. Then the various elements were parted; fire as the lightest ascended to the heavenly vault, below this stood air, and still lower earth and water. Then the earth was parted into land and sea, mountains and rivers arose, and trees appeared. By the various intensity of the sun's rays diverse climates and seasons were produced; the stars also began to shine. After this followed the creation of beasts, birds and

fishes; and last of all man was formed, the partaker of the Divine nature, and ruler of the world.

8. The *Etruscan*, handed down by Suidas from an Etruscan history.

God made the world in six periods of 1000 years each. In the first He made heaven and earth; in the second the vault of heaven; in the third the sea and other waters of the earth; in the fourth the sun, moon and stars; in the fifth the animals of the air, the water, and the land; and in the sixth men. (See Knobel and Delitzsch.)

9. The notion of the world-egg, out of which sprang heaven and earth, is found also among the Chinese, Japanese, Society Islanders, Finlanders and North American Indians. The primitive chaos is held by the Japanese and Icelanders. The Mexicans and Peruvians make the first age the age of water. (See Delitzsch and Kalisch.)

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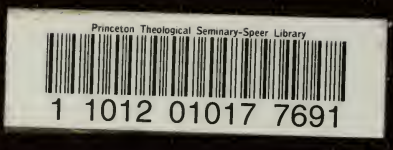
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